University of Alberta

A Theory-Based Approach to Establishing Effectiveness in a Public Health Nursing Program

by

Jeanne Françoise Besner ©

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the requirements for the degree of Doctor of Philosophy

Edmonton, Alberta

Spring, 1999

National Library
of Canada

Acquisitions and
Bibliographic Services

395 Wellington Street
Ottawa ON K1A 0N4
Canada

Bibliothèque nationale
du Canada

Acquisitions et
services bibliographiques

395, rue Wellington
Ottawa ON K1A 0N4
Canada

Your file Votre référence

Our file Notre référence

The author has granted a non-exclusive licence allowing the National Library of Canada to reproduce, loan, distribute or sell copies of this thesis in microform, paper or electronic formats.

The author retains ownership of the copyright in this thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced without the author's permission.

L'auteur a accordé une licence non exclusive permettant à la Bibliothèque nationale du Canada de reproduire, prêter, distribuer ou vendre des copies de cette thèse sous la forme de microfiche/film, de reproduction sur papier ou sur format électronique.

L'auteur conserve la propriété du droit d'auteur qui protège cette thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation.

0-612-39504-9

Canada

University of Alberta

Library Release Form

Name of Author: **Jeanne Françoise Besner**

Title of Thesis: **A Theory-Based Approach to Establishing Effectiveness in a Public Health Nursing Program.**

Degree: **Doctor of Philosophy**

Year this Degree Granted: **1999**

Permission is hereby granted to the University of Alberta Library to reproduce single copies of this thesis and to lend or sell such copies for private, scholarly or scientific research purposes only.

The author reserves all other publication and other rights in association with the copyright in the thesis, and except as hereinbefore provided, neither the thesis nor any substantial portion thereof may be printed or otherwise reproduced in any material form whatever without the author's prior written permission.

(Signed) Jeanne Besner

Permanent Address:

2315 - 20 Patterson Blvd. S.W.

Calgary, Alberta

T3H 1W9

Date: January 4, 1999

University of Alberta

Faculty of Graduate Studies and Research

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled ***A Theory-Based Approach to Establishing Effectiveness in a Public Health Nursing Program*** submitted by Jeanne Françoise Besner in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

Phyllis Giovannetti

Phyllis Giovannetti, RN, ScD

Supervisor

Peggy Anne Field

Peggy Anne Field, RN, PhD

Margaret J Harrison

Margaret Harrison, RN, PhD

Philip Jacobs

Philip Jacobs, B Comm, MA, DPH

Janet Ross-Kerr

Janet Ross Kerr, RN, PhD

Chair

Sally Kendall

Sally Kendall, BSc.(Hons), RGN, RHV, PhD

External Examiner

Date of Approval by Committee: December 22, 1998

In loving memory of

Mom, Dad, Roger and Shirley

Abstract

This qualitative study was conducted to clarify what goes on during delivery of public health nursing services in a Postpartum Program. The participants were a volunteer sample of six nurses, and clients (25) from a range of backgrounds and socio-economic groups. Through a series of interviews with participants, the relationships among program structure, process, and outcomes were explored by examining dimensions of a) the program environment; b) nursing activities; and c) outcomes as perceived by clients and nurses. The theoretical framework which underpinned this research is grounded in primary health care, within which is embodied the concept of health promotion. Although this research does not represent an evaluation of the program, the design of the study was informed by Chen's (1990) framework for conducting evaluations.

One finding from this descriptive study was the manifestation that attempts to influence nursing practice are unlikely to succeed unless the whole setting in which nurses practice supports a definition of the nature and scope of nursing that is consistent with a selected model of professional practice. A second major outcome was the demonstration that nursing practice in the program is still very much rooted in a "traditional" model of health care delivery. A third result was the substantiation that nurses' contributions to the achievement of health can be measured in the short term by such indicators as increased client skills and knowledge, improved coping ability, and self-confidence.

The findings from this study reinforce the view that the lack of a conceptual model to guide nursing practice may act as a barrier to nurses assuming their proper role in health promotion. By using program theory and a comprehensive framework incorporating structure, process, and outcome variables as a template to guide data collection and analysis in this research, it has been possible to demonstrate that program structure is another potential deterrent to nurses adopting a style of practice that is congruent with the health promoting role advocated

by their professional organisations.

Acknowledgments

I want to acknowledge several individuals without whom my goal of completing doctoral studies could not have been realized. First and foremost, I am deeply grateful to the six public health nurses and 25 clients who so willingly agreed to participate in this research project. It took great courage on the part of nurses to expose their practice to the scrutiny of a researcher, and openness and trust on the part of clients to so warmly welcome a stranger into their homes. I can but hope they will feel that their confidence in me was justified. I also wish to thank senior management at the participating health agency for their willingness to have the research carried out, and for facilitating my work by granting me such easy access to staff and clients.

My sincere appreciation is extended to my thesis supervisor, Dr. Phyllis Giovannetti for her constant guidance, support, encouragement, and friendship. Many thanks to Dr. Peggy Anne Field, who not only agreed to remain a committee member although she retired before the data collection was begun, but also acted as a valued consultant during analysis and writing. I am grateful for the expert assistance and advice provided by Dr. Margaret Harrison, particularly during the conceptual phase of this doctoral work, and to Dr. Philip Jacobs who agreed to remain on the committee even when it became obvious that my study would take a qualitative turn, into somewhat less familiar territory. The continued support and encouragement of my supervisor and of Dr. Field during the last few months is particularly appreciated.

I wish to acknowledge the generous funding provided by the National Health Research Development Program, without which I could not have enjoyed the luxury of full-time studies for the past four years. I am also deeply indebted to the University of Alberta, for awarding me a Walter H. Johns Graduate Fellowship over the past four years, to the Alberta Association of Registered Nurses for providing the funding to conduct this research, and to the Alberta Public Health Association for honouring me with the Dr. Jean C. Nelson Memorial Foundation Scholarship.

Last, but by no means least, I am eternally grateful for the support of family and of many friends, but most particularly Dr. Shirley Stinson, Dr. Flo Myrick and Fran, Gary and Elaine, Rae and Kay, whose love, fellowship, and understanding sustained me through many difficult moments over the past five years. I am deeply indebted to friends and colleagues who continued to provide much needed encouragement during the past five months of this odyssey, most particularly Dr. Elaine McKiel, Betty Gourlie, Dr. Jean Espenshade, Judee Onyskiw, and Judy Mill. As I was reminded in a note sent a few months ago by another valued friend, Dr. Joy Calkin

> "*In order to get from what was to what will be . . . you must go through what is.*"
>
> **(Anonymous)**

Without the constant support of the friends and colleagues who stood by throughout these past five years, the voyage would have been lonely indeed.

TABLE OF CONTENTS

1.0 Introduction

1.1 Introduction 2
1.2 Purpose and Research Questions 3
1.3 Study Design 5
1.4 The Context for the Study 6
1.5 The Study 7
  1.51 Study Sample 9
  1.52 Data Collection and Analysis 9
1.6 Organisation of the Thesis 11
1.7 References 13

2.0 A Theory-Based Approach to Establishing Effectiveness in a Public Health Nursing Program

2.1 Introduction 16
  2.11 Why a Theoretical Approach? 17
  2.12 What is Theory-Based Evaluation? 19
  2.13 How Does Theory-Based Evaluation Work? 22
2.2 Research Design 23
  2.21 The Explicit Program Theory 24
2.3 Methods and Procedures 25
2.4 Application of the Normative Program Theory 28
2.5 Discussion 31
2.6 References 34

3.0 Public Health Nursing: a Comparison of Theoretical and Actual Practice

3.1 Introduction 39
3.2 Methods and Procedures 41
3.3 Findings 43
  3.31 Biographical Details 43
  3.32 Standards and Goals of Practice 44
  3.33 Problems Addressed 48
  3.34 Program Structure 50
  3.35 Program Processes 53
  3.36 Outcomes 57
3.4 Conclusion 58
3.5 Implications for Nursing Practice 62
3.6 References 64

4.0 The Reciprocal Effects of Client, Setting, and Nursing Actions on Client Outcomes

4.1 Introduction 70
4.2 Methods 71
4.3 Findings 74
  4.31 Client Characteristics 75
  4.32 Estimated Direct Hours of Care 75
  4.33 Client Needs 76
  4.34 The Role of Client 78

- 4.341 Nurse-initiated contacts 78
- 4.342 Client-initiated contacts 81
- 4.343 Client traits and preferences 81
- 4.35 The Role of Intervener and Setting Characteristics 83
  - 4.351 Expectations about the program 83
  - 4.352 Perceptions of nurses' role, expertise and accessibility 84
  - 4.353 Interpersonal attributes of nurses 86
- 4.36 Nursing Interventions 88
- 4.37 Outcomes 89
- 4.4 Limitations of the Study 93
- 4.5 Discussion 93
- 4.6 References 97

5.0 Summary, General Discussion and Recommendations

- 5.1 Introduction 100
- 5.2 Study Design 102
  - 5.2.1 Data Collection and Analysis 104
- 5.3 Findings 104
- 5.4 Conclusions 114
- 5.5 Limitations of the Study 116
- 5.6 Recommendations 118
- 5.7 Final Comments 122
- 5.8 References 125
- 5.9 Attachment 1 129

6.0 APPENDIX A: Literature Review

- 6.1 Introduction 133
- 6.2 The Domain of Health 133
  - 6.21 Defining Health 133
  - 6.22 Describing Health 135
  - 6.23 Explaining Variation in Health Status 136
  - 6.24 Social Determinants of Health Behaviour 136
  - 6.25 Approaches to Improving Population Health 138
  - 6.26 Discussion 140
- 6.3 Nursing and Health 141
  - 6.31 Why Disciplinary Research In Health? 141
  - 6.32 The Nature of Nursing 141
  - 6.33 The Purpose of Nursing Research 142
  - 6.34 Theory in Public Health Nursing 143
  - 6.35 Discussion 145
- 6.4 Measuring the Effectiveness of Nursing Practice 146
  - 6.41 Defining Effectiveness 146
  - 6.42 Defining Outcomes 147
  - 6.43 Issues in Measuring Nursing Outcomes 148
  - 6.44 Selecting Relevant Outcomes 148
  - 6.45 Approach to Measurement 149
  - 6.46 Appropriateness of Measurement Tools 150
  - 6.47 Availability of Data 151
  - 6.48 Discussion 153

- 6.5 Measuring the Effectiveness of Public Health Nursing 153
  - 6.51 The Black Box of Nursing Interventions 153
  - 6.52 Effectiveness of Home Based Public Health Nursing Programs 154
  - 6.53 Nurse-Client Interactions in Public Health 158
  - 6.54 Discussion 160
- 6.6 Program Evaluation 161
  - 6.61 The Essence of Evaluation 161
  - 6.62 The Theory Driven Approach to Program Evaluation 162
  - 6.63 Issues in Program Evaluation 162
  - 6.64 The Development of Program Theory 165
- 6.7 Summary 166
- 6.8 References 167

7.0 APPENDIX B: Methods and Procedures

- 7.1 Research Design 181
  - 7.11 Data Collection Techniques 182
  - 7.12 Ethical Considerations 185
  - 7.13 Procedures 187
  - 7.14 Sample 187
    - 7.141 Nurse characteristics. 190
    - 7.142 Client characteristics. 191
- 7.2 Data Analysis 193
- 7.3 Reliability and Validity 198
- 7.4 References 201
- 7.5 Data Collection/Analysis Tools
  - 7.51 Framework to Guide Establishment of Relationships Among Variables 203
  - 7.52 Demographic Client Data Form 207
  - 7.53 Case Contact Data Form 210
  - 7.54 Public Health Nurse Interview Guide 213
  - 7.55 Client Interview Guide 217
  - 7.56 Needs - Actions - Outcomes Tracking Sheet 222
  - 7.57 Guide to Conducting Review of Tracking Sheet 224
  - 7.58 Participant Selection Fact Sheet 227
  - 7.59 Project Nodes Tree Structure 229
  - 7.510 Public Health Nurse Consent Form 234
  - 7.511 Client Consent Form 236
  - 7.512 Participant Information Fact Sheet 239

8.0 APPENDIX C

- 8.1 Postpartum Program Flow Sheet 242
- 8.2 Nursing Assessment of the Infant 243
- 8.3 Health Map 244

LIST OF TABLES

Table 7.1 Relationship among Client Characteristics, Perceived Need, Organisational Issues, Nursing Actions, and Outcomes 197

Table 7.2 Structural, Procedural, and Relationship Effects 198

Chapter 1

Introduction

INTRODUCTION

There has been increasing pressure in recent years to document health care outcomes, and demonstrate that programs and services are of measurable benefit to clients. This issue is of particular relevance to public health nursing, in which little progress has been made in measuring the impact of practice on client outcomes (Barriball & Mackenzie, 1993; Gottlieb & Feeley, 1995). Public health nursing roles are said to be evolving in keeping with the move toward primary health care, with special emphasis placed on nurses' contribution in the areas of health promotion and disease prevention (Rodger & Gallagher, 1995). The need has never been greater to examine what public health nurses do, to assess the difference they make to client health outcomes, and to modify or change practice (Clarke, 1995) as appropriate, to be consistent with contemporary conceptualisations of their health promoting and disease prevention role.[1]

It has been argued that unless health promotion research attends to both the results of interventions and the effectiveness of the means used to achieve them, it may be "laying itself open to scientific criticism and political scepticism" (Macdonald, Veen, & Tones, 1996, p. 367). It is therefore important to conduct research to provide insight into why programs have, or have failed to achieve their effects, and to answer questions about how specific outcomes were attained. To measure the effectiveness of health care programs we must also know what client factors influence provider actions, and what interventions are most likely to produce desired outcomes in particular situations (National Forum on Health, 1995). Most health outcomes reflect the effects of many factors and multiple providers over time. To demonstrate the effectiveness of any provider group, it is important to have data that enable us to clearly articulate what outcomes the provider is expected to achieve. Further, it is important to reflect in the process on the relationship that exists between client needs and outcomes achieved

---

[1] A detailed rationale for this study is presented as Appendix A - Literature Review.

(Community Health Information Systems Working Group, 1994; Donabedian, 1988; Lohr, 1988).

Purpose and Research Questions

As a means of clarifying how nursing practice influences program outcomes, the **purpose** in the research project described herein was to examine the relationship that exists among client factors, system characteristics, provider actions, and client outcomes in the Postpartum Program, a community based service primarily delivered by public health nurses in a large urban city in western Canada. The aim in the study was to make explicit whether and how client and provider factors and organisational issues influence nurses' approach to specific situations of practice. To better understand the impact of holding an explicit theoretical perspective on the interpretation of nursing practice and consequent program effects, the relationships among structure, process, and outcome dimensions in the program were examined from both an explicit program condition (normative program) and an implicit program condition (implemented program) reflecting actual program delivery.[2]

The purpose of theory is to facilitate articulation and description of events, situations, or relationships (Meleis, 1991). A theoretical framework within which to examine nursing practice was developed in this research to guide the collection and analysis of data about nurses' focus and actions in the course of delivering postpartum services. The theory served as a "test" to determine whether actions and activities as described by nurses and their clients "fit" with the researcher's expectations about public health nursing practice. Those expectations were derived from personal beliefs about the nature of public health nursing, and current literature describing the health promoting role of nurses practising within a primary health care context (Stewart, 1995). The normative program thus represents a fictitious and "ideal" approach to service delivery by nurses practising within a primary health care paradigm, while the implicit program reflects actual or "real" practice as described by the nurses and clients who participated in the study.

---

[2] Details of the methods and procedures are presented as Appendix B.

Given that nursing is a practical endeavour, theoretical frameworks used in nursing research should provide relevant knowledge to guide the actions of nurses (Meleis, 1991). In addition, client needs, nursing actions, and client outcomes must be described and categorised from a nursing perspective, if nurses are to demonstrate their unique contribution to the achievement of health (Clarke, 1995). One nursing model which specifically addresses the intertwining of nursing practice and primary health care in its substantive structure is the McGill Model of Nursing. It was conceived with community based practice in view, and although originally developed during the 1970s and early 1980s, it is entirely congruent with currently held conceptions of the role of public health nurses in today's health care system in Canada (Stewart & Langille, 1995). For this reason, elements of the McGill Model of Nursing were used as the basis from which to develop the normative program theory which guided this research.

The assumption underlying the explicit (normative) program was that:

> *Public health nursing interactions during which the capabilities, unique characteristics and needs of families (client) are identified and accurately interpreted, will lead to appropriate and responsive nursing interventions, aimed at improving family competence in achieving overall health goals, resulting in increased levels of perceived confidence and efficacy in relation to parenting, and in a sense of mastery over life circumstances in general.*

The research questions were:

1. What is the relationship among client needs, organisational structure, nursing interventions, and client outcomes in the Postpartum Program (*the implemented program*)?

2. How does an explicit theoretical approach to nursing practice influence interpretation of the relationship that exists (or should exist) among client needs, organisational structure, nursing interventions, and client outcomes (*the normative program*)?

The latter question raised a related question - "what would happen in delivery of the Postpartum

Program (i.e. in the implemented program) if nurses' practice was guided by a theoretical perspective that was congruent with a primary health care approach to health promotion?" To examine this issue, nurse participants were divided into two groups - one in which the nurses were exposed to the concepts of the McGill Model of Nursing prior to onset of data collection, and the other in which nurses continued to practise according to their own implicit model. The McGill Model was chosen because it had been used in developing the normative program theory, and reflected the researcher's beliefs about public health nurses' role in today's health care system. An assumption was made that if the "McGill group" of nurses were sufficiently sensitised to this approach to practice, differences among the two groups of nurses should become apparent in their focus and actions during the course of the study.

Study Design

The framework which informed study design, development of data collection tools, and helped focus and organize data analysis was adapted from Chen's (1990) normative evaluation model, which provides a means of clarifying program processes, both in theory and in actuality. The model incorporates an assessment of the implementation, treatment, and outcome components of a program environment, and it helped guide the establishment of relationships among structure, process, and outcome dimensions of the Postpartum Program. Examples of some of the issues which were examined within each of these dimensions are briefly presented below, and are described in greater detail in Appendix B (pp. 203-205).

1. *Implementation environment*: What are the characteristics of the population receiving services, and of the individuals providing those services? What services are being delivered, where are they delivered, and what is the social climate within which the program operates?
2. *Treatment environment*: Do values, preferences, abilities of providers or recipients influence program activities and outcomes? Are there difficulties (e.g. inadequate staff) in maintaining

program delivery as intended? What factors influence the amount, frequency, and duration of services delivered by program staff?

3. *Outcome environment*: What changes do providers and participants report as a consequence of the program? What participant and provider characteristics appear to be related to program outcomes? Is it clear what goals have been achieved? What is the providers' theory about how program activities are supposed to achieve particular goals?

The Context for the Study

The Postpartum Program is one of several programs delivered by staff employed within the Public Health Division of a large urban health authority in western Canada. The program originated as a pilot project which provided women and their newborn infants, who met the eligibility criteria, with the opportunity to receive in-home nursing care as an alternative to a longer stay in one of the city's hospitals. The success of the pilot project, coupled with the need to reduce hospital costs, led to an expansion of the program to include all postpartum women and newborns in the region. With universal access to the program by all eligible postpartum women, the program underwent a name change, to reflect a greater emphasis on enhancement, maintenance and restoration of *health*, versus decreased hospital stay. Documented program goals reflect a focus not only on providing a cost-effective and safe alternative to hospital care, but also on encouraging women to participate more fully in determining their own health needs (Capital Health Authority, 1996). This latter goal implies a commitment to involving clients in mutual decision making related to program planning and implementation.

The program is staffed by a full-time coordinator, permanent (full and part-time) public health nurses, and a casual pool of nurses who provide service on week-ends and statutory holidays, as well as during periods of heavy demand. The permanent nursing staff have responsibilities not only in the Postpartum Program, but also in relation to other Infant and

Preschool programs offered throughout the Public Health Division's catchment area. Services are provided from nine Health Centres (situated within various geographic areas of the region), each of which has its own complement of staff. The Postpartum Program operates from Monday to Friday out of each Health Centre, but on week-ends service delivery occurs out of only six Health Centres located in four quadrants of the region.

Each Health Centre is managed by a Senior Nurse Administrator who is charged with the responsibility of allocating staff resources to meet priority service needs. Due to workload demands in other areas (e.g. immunisation and Well Child Clinics), Postpartum Program staff generally rotate out of the program every three to four days (sometimes for periods of one or more weeks), to provide coverage in other areas. Although most nurses welcome the greater variety of work experiences which clinic scheduling provides, they recognise that this necessarily decreases "the consistency of care that would be ideal . . . with week-ends and casuals, and [clinic] staffing, it's really quite difficult to ensure the clients that they will be seen by the same nurse, or even the same two nurses . . . sometimes they see four or five different nurses over the postpartum period." According to program documents, contact with postpartum clients

> begins on the day of hospital discharge with a telephone call to the client from the nurse. A home visit occurs on the day following discharge or sooner if necessary. Services are driven by client need, and occur until the end of the postpartum period (6 - 8 weeks). . . . If health needs continue beyond the postpartum period, on-going public health services are available. . . . Services (home visiting and telephone) are available 7 days a week, from 0830 to 2200 hours. The hot-line telephone service provides consultation services to both clients and health care professionals. . . . The hot-line is manned by nurses with additional preparation in obstetrics, breastfeeding, and public health. In summary, the hot-line provides health information, support, and referral services.

The Study

To focus simply on outcome achievement as a measure of the effectiveness of health care programs potentially ignores the significant influence of client, provider, and setting factors on the results of interventions. For this reason, currently recommended approaches to effectiveness or outcomes research incorporate *a priori* development of intervention theory, which delineates "factors other than the intervention that could influence outcome achievement and guides the analyses of their impact on outcomes" (Sidani & Braden, 1998, p. 12). Intervention theory should "explain" the relationship that exists between selected interventions and desired outcomes, as well as identifying the conditions under which causal processes will, or will fail to occur. Clearly established theories or explanations of the rationale underlying particular interventions are often not well articulated in health care programs, however, and making those explicit is pre-requisite to conducting informed effectiveness research. Qualitative, exploratory research methods are therefore needed to bring to the surface what is often implicit in program delivery, to clarify what actually goes on in the program, why particular interventions are selected and to what end, and what are providers' views about the conditions that are necessary to produce intended outcomes (Chen, 1990; Sidani & Braden, 1998). The data can then be used in designing subsequent evaluations of program effectiveness. This exploratory approach to understanding the Postpartum Program is the essence of the research project described herein.

A qualitative design was selected, using ethnographic techniques for interviewing and data analysis. Although this research did not constitute an evaluation of the Postpartum Program, Chen's (1990) theory-driven evaluation model guided the study design, and influenced the construction of the normative program theory which served as a template against which to judge the effectiveness of practice (i.e. the extent to which nursing practice was consistent with "ideal" public health nursing practice). Prior research (Besner, 1994) had revealed that public health nurses tended to be atheoretical in their approach to practice, bringing into question the extent to which their interventions could be described as effective, given that the link between specific actions and intended outcomes was often difficult for them to articulate.

Study Sample [3]

The participants in this research were six volunteer public health nurses involved in delivery of the Postpartum Program. One nurse was selected from each of six (of the nine) Health Centres located in various quadrants of the city. Nurse managers had requested that no more than one nurse per Health Centre participate in the study, to reduce the possibility of over-burdening already stretched staff resources. Geographic diversity was considered an important means of ensuring that the client sample would represent the desired range of socio-economic and educational backgrounds. Once recruited, nurses were asked to inform new clients on their respective caseloads of the study, and request permission from clients to have the researcher contact them directly. All volunteer clients meeting pre-established criteria were considered by the researcher, until such time as it became evident that no new client or provider "behaviours" would be elicited through further exploration of program processes (i.e. data saturation had occurred).

Data Collection and Analysis

Data collection methods included the acquisition of client demographic and social information, captured in quantitative format. Additional quantitative and qualitative information was obtained from nurse and client participants through face-to-face interviews, from review of nursing records (which captured information about time of birth, date of discharge from hospital, etc.) and from notebooks provided to clients by the researcher during the first interview.

Data were initially analysed separately for each of the two service delivery approaches (i.e. the McGill and non-McGill groups), and were later compared. Quantitative client demographic and social information, and case contact time (obtained from agency records and from notebooks provided to clients) were entered into SPSS for Windows and analysed using

---

[3] Please refer to Appendix B for a more detailed description of the study sample.

descriptive statistics. Taped interviews were transcribed verbatim, and were then analysed with the help of a software computer package (NUD*IST) designed for qualitative data storage and indexing (Qualitative Solutions and Research, 1996). Content analysis was used to affix codes and identify sub-themes in the data. The approach to data analysis was deductively oriented to some extent, since the first level of analysis segmented interview data into pre-determined broad categories (Biographical Client and Provider Data; Client Needs; Organisational Factors; Nurse and Client Actions, and Outcomes), consistent with the study purpose.

Although a classification system to describe nursing practice in primary health care settings had been evolved through prior research (Gottlieb & Allen, 1979/1997), no attempt was made to impose that classification system when describing program operations in this study. The intent was to explore the relationship among structure, process, and outcome dimensions of the program, while remaining as faithful as possible to the actual descriptions and language used by participants. Although the purpose in this study was not to assess the McGill group of nurses' fidelity to the model (i.e. this was not an intervention study), it was nonetheless assumed *a priori* that the sub-themes emerging from analysis of the McGill group transcripts would differ from those in the non-McGill group, and would be consistent with the pre-established classification system (Gottlieb & Allen, 1979/1997). There was in actual fact, however, no "comparison" group in this research, and the latter assumption was not borne out.

For a number of reasons, the orientation program (described in Appendix B, pp. 187-188) was not successful in transforming the practice of the three nurses who had been exposed to the concepts of the McGill Model. In retrospect, the researcher came to the realisation that the orientation was of insufficient strength, duration, or intensity to alter nursing practice to any significant extent. As Murphy (1994) demonstrates, staff development programs that have successfully supported the incorporation of the McGill Model into nursing practice have characteristically not only transmitted theoretical knowledge of relevant concepts, but have also provided opportunities to apply this knowledge in supervised practice situations over extended periods of time. Furthermore, the setting in which expectations of "new" roles evolved was specifically oriented to "socializing" nurses to this approach to practice (Murphy, 1994).From socialization theory, it could have been predicted that the orientation program would not adequately produce the intended "comparison" group. It has been demonstrated in other studies (Day, Field, Campbell, & Reutter, 1995; Reutter, Field, Campbell, & Day, 1997) that socialization into new roles involves not only the acquisition of knowledge and skills, but more importantly, ongoing exposure to desired norms and behaviours in the work environment. In this study, the three nurses who had been assigned to the "McGill group" continued to practice in their respective health centres, in an environment that did not explicitly support adoption of a new approach to practice. The lack of role models and of peer support to reinforce newly acquired values may have mitigated the effect of the orientation program (Day et al., 1995). As a consequence, there were no substantive differences noted in program processes or outcomes between the McGill and non-McGill service delivery conditions in this study.

Organisation of the Thesis

With the foregoing "route map" as background, the goal in subsequent chapters is to present a comprehensive and in-depth discussion of the research and of findings from the study. The first article (Chapter 2)[4] in this "paper thesis" is intended to provide an overview of the theory-based approach to establishing effectiveness, and includes data from the research to illustrate its application. The case is made as to why a theoretical approach is needed when conducting evaluation studies, and how that method was applied in this research, which while not evaluative in its focus, was intended to make explicit the relationship that exists among structure, process, and outcome dimensions of the Postpartum Program. The rationale for the normative program theory which was developed to guide data collection and analysis is presented.

---

[4] An earlier version of this paper was submitted to the Canadian Evaluation Society student essay competition, and was awarded the Honorary Runner-up prize.

In the third chapter, the impact of using normative program theory in analysing program processes becomes evident. Using the normative program theory as a guide, the extent to which actual nursing practice in the Postpartum Program is consistent with primary health care principles is examined, and it is concluded that nursing practice is still deeply rooted in a "traditional" model of health care delivery. The evidence for that claim is presented by contrasting the "ideal" view of nurses' health promoting role with what was empirically discerned. In the subsequent chapter (4), the actual (i.e. the implemented) program is described, bringing into sharper focus the complex reality of public health nursing practice in the program. The reciprocal effect of client and organisational factors on nursing actions and consequent outcomes is discussed. The suggestion is made that the Postpartum Program is viewed as highly effective by recipients, primarily due to the nurses' role in providing needed support and information. There was little evidence of actions aimed at "empowering" clients, as had been implied through the normative program theory.

A summary of findings, general discussion, and recommendations is presented in Chapter 5. The literature review in Appendix A is provided as background to support the study design, methods and procedures, which are described in detail in Appendix B. Examples of the assessment tools used by public health nurses in the course of service delivery are presented in Appendix C.

References

Barriball, L. K., & Mackenzie, A. (1993). Measuring the impact of nursing interventions in the community: A selective review of the literature. Journal of Advanced Nursing, 18, 401-407.

Besner, J. (1994). Nurse-client interactions in public health. An exploratory study of client needs, nursing interventions, and outcomes. Unpublished manuscript, University of Alberta, Edmonton, Alberta, Canada.

Capital Health Authority. (1996). Healthy Beginnings postpartum nursing manual. Edmonton, AB: Public Health Services, Community Health Promotion and Prevention Services.

Chen, H.-T. (1990). Theory-driven evaluations. Newbury Park, CA: Sage.

Clarke, H. F. (1995). Research-based practice in community health nursing. In M. J. Stewart (Ed.), Community nursing: Promoting Canadians' health (pp. 577-599). Toronto, ON: W. B. Saunders Canada.

Community Health Information Systems Working Group. (1994). Outcome indicators[1]: A review of the literature and framework for development. Ottawa, ON: Canadian Institute for Health Information .

Day, R. A., Field, P. A., Campbell, I. E., & Reutter, L. (1995). Students' evolving beliefs about nursing: From entry to graduation in a four-year baccalaureate programme. Nurse Education Today, 15, 357-364.

Donabedian, A. (1988). Quality assessment and assurance: Unity of purpose, diversity of means. Inquiry, 25, 173-192.

Gottlieb, L., & Allen, M. (1997). Developing a classification system to examine a model of nursing in primary health care settings. In L. N. Gottlieb, & H. Ezer (Eds.), Perspective on health, family, learning, & collaborative nursing: A collection of writings on the McGill Model of Nursing (Pre-publication ed., pp. 18-31). Montreal, QC: McGill University School of Nursing. (Original work published 1979)

Gottlieb, L. N., & Feeley, N. (1995). Nursing intervention studies: Issues related to change and timing. In M. J. Stewart (Ed.), Community nursing. Promoting Canadians' health (pp. 618-639). Toronto, ON: W. B. Saunders Canada.

Lohr, K. M. (1988). Outcome measurement: Concepts and questions. Inquiry, 25, 37-50.

Macdonald, G., Veen, C., & Tones, K. (1996). Evidence for success in health promotion: Suggestions for improvement. Health Education Research, 11(3), 367-376.

Meleis, A. I. (1991). Theoretical nursing. Development and progress (2nd ed.). Philadelphia: J. B. Lippincott.

Murphy, F. (1994). A staff development programme to support the incorporation of the McGill model of nursing into an out-patient clinic department. Journal of Advanced Nursing, 20, 750-754.

National Forum on Health. (1995). Summary report. Evidence-based decision-making: A dialogue on health information. Ottawa, ON: Author.

Qualitative Solutions and Research. (1996). User's guide for QSR NUD*IST (Revision 3). Sage: Scolari.

Reutter, L., Field, P. A., Campbell, I. E., & Day, R. (1997). Socialization into nursing: Nursing students as learners. Journal of Nursing Education, 36(4), 149-155.

Rodger, G. L., & Gallagher, S. M. (1995). The move toward Primary Health Care in Canada: Community health nursing from 1985 to 1995. In M. J. Stewart (Ed.), Community nursing: Promoting Canadians' health (pp. 37-58). Toronto, ON: W. B. Saunders Canada.

Sidani, S., & Braden, C. J. (1998). Evaluating nursing interventions. A theory-driven approach. Thousand Oaks, CA: Sage.

Stewart, M. J. (Ed.). 1995. Community nursing. Promoting Canadians' health. Toronto, ON: W. B. Saunders Canada.

Stewart, M. J., & Langille, L. L. (1995). Primary health care principles: Core of community health nursing. In M. J. Stewart (Ed.), Community nursing. Promoting Canadians' health (pp. 62-88). Toronto, ON: W. B. Saunders Canada.

CHAPTER 2

A Theory-Based Approach to Establishing Effectiveness in a Public Health Nursing Program

A THEORY-BASED APPROACH TO ESTABLISHING EFFECTIVENESS IN A PUBLIC HEALTH NURSING PROGRAM

Introduction

Within the cost constraint environment of the 1990s, attention has increasingly focussed on the need to demonstrate *accountability* in health care, that is, on justifying programs and expenditures on the basis of results achieved. Accountability in health care is closely related to *effectiveness*, a concept which implies that the actions of providers are deliberately selected with a view to producing intended client outcomes. Most health outcomes reflect the effects of many factors and multiple providers over time. To demonstrate the effectiveness of any group of provider, such as public health nurses [1] (PHN), it is important to have data that enable us to clearly articulate what outcomes that provider is expected to achieve, using what interventions, in what context. Further, it is important to explicate the relationship that exists between client needs and outcomes achieved (Community Health Information Systems Working Group, 1994; Donabedian, 1988; Lohr, 1988). In other words, clinicians require sound knowledge of which aspects of their interventions, used under what circumstances, will most likely produce desired outcomes. Developing this kind of knowledge requires explication of the mechanisms that account for the effects of an intervention, and of mediating factors that may influence attainment of specified goals (Sidani & Braden, 1998). It is extremely difficult to interpret the findings of outcome studies which lack a theoretical framework that specifies the linkages that exist among client needs, provider actions, and outcomes measured (Combs-Orme, Reis, & Ward, 1985; Hayward et al., 1993). Establishing those linkages is a major priority in measuring the effectiveness of nursing practice (Griffiths, 1995; Strickland, 1997).

---

[1] The term *Public Health Nurse* or *Nursing* is used throughout to denote practice which focusses primarily on health promotion and illness / injury prevention services, delivered within a Primary Health Care context (King, Harrison & Reutter, 1995).

The focus of the research described herein was an examination of provider effectiveness in a community-based postpartum program primarily delivered by public health nurses. The purpose in the research project was to examine the relationship that exists among client factors, system characteristics, provider actions, and client outcomes in the program. The relationships among structure, process and outcome dimensions of the program were examined against a theoretical "screen" to determine the extent to which nurses' "actual" practice was consistent with the researcher's pre-defined expectations. Those expectations were derived from personal experience and current literature describing the health promoting role of community health nurses in Canada. The aim in this paper is to provide a rationale for, and a brief overview of research design and methods. First, the case is made as to why a theoretical approach is needed when conducting effectiveness research. This will be followed by an illustration of what is theory-based evaluation, with examples to describe how it was applied in this research.

Why a Theoretical Approach?

Studies of the effectiveness of public health nursing have frequently demonstrated a favourable impact on client outcomes (e.g. Ciliska et al., 1994). The process by which positive outcomes are achieved is poorly understood, however, because most studies have been atheoretical in nature. Typically, client outcomes research has been conducted using a *method-oriented* or "black box" approach (Bickman, 1987; Chen, 1990). This type of evaluation research fails to link specific aspects of programs to specific outcomes, and to explicate *how and why* programs work, and what intervening or mediating variables are critical in explaining variations in client outcomes (Lipsey, 1990).

For example, interventions delivered through home visitation have been a predominant focus of public health nursing research. It is evident from published studies, however, that not all home visitation programs are equally effective (Olds & Kitzman, 1990). That a program makes a difference is more likely to be substantiated when there is a clear need for the service at the outset, nurse-client exchanges are repeated on several occasions, and the intervention occurs over a prolonged duration (Olds, 1992). A major problem encountered in assessing the influence of home visiting on health outcomes has been the difficulty of disentangling the effect of the home visit itself from other program effects. Home visits are never the sole intervention strategy, but as a rule, are undertaken partly as a means of enhancing support through establishment of a strong therapeutic relationship to individuals considered to have deficient social networks. Yet, the quality of the provider-client relationship and its meaning to clients have not been measured in studies of home visitation. In none of the reported studies has a linkage been explicitly demonstrated among client needs, provider actions, and specific outcomes. It is therefore not possible to explain why home visitation is often an effective strategy in achieving positive outcomes in otherwise intractable populations, but appears less effective with lower risk groups. From outcome studies conducted to date, it is not clear whether effectiveness is a function of matching particular interventions to specific client needs (Emde, 1988; Olds & Kitzman, 1990), a *process* issue, or due primarily to the quality of the nurse-client interaction, a matter of *structure*. This acts as a serious deterrent to improving interventions, and hence outcomes (Koepsell et al., 1992). If we are to improve the effectiveness of public health nursing programs, clarification of the process by which outcomes are achieved is essential.

Outcomes are the end results of the provision of care, but in and of themselves, they make no particular statement *about* health care. Simply measuring health status, well-being or functional ability provides no concrete evidence that interventions are effective. To claim that a certain outcome would not have occurred in the absence of an identified intervention, causal relationships between actions and their effects must be established, and evidence must be provided of a change in health status or in behaviour, attributable to an antecedent intervention (Community Health Information Systems Working Group, 1994; Donabedian, 1988; Lohr, 1988). A framework for measuring effectiveness must therefore facilitate documentation of the linkages that exist among structure, process, and outcome dimensions of care (Jennings, 1991). Traditionally, the three major approaches to assessing the effectiveness of health care - structure, process, or outcome - have been undertaken in an either/or fashion, rather than addressed simultaneously. As a consequence, there exists a serious lack of "methodological tools and resources to conduct effectiveness research" (Ozbolt, 1992, p. 210) in nursing.

The problems inherent in measuring the effectiveness of nursing practice are compounded in public health nursing. What constitutes a public health nursing intervention is often described in abstract terms such as assessment, education, health counselling, support, referral, or advocacy (Vahldieck, Reeves, & Schmelzer, 1989). In practice, the precise content of these "black boxes" of intervention (Koepsell et al., 1992) remains obscure. The connecting processes between client needs, nursing actions, and outcomes are seldom clearly visible and it is difficult to explain how and why specific strategies, such as education, succeed or fail. To document the distinct contribution of professional nursing practice to the achievement of program objectives and health outcomes, it is necessary to describe what goes on in the program, and to ensure that the program itself (the independent variable) and measures of program outcomes (dependent variables) are described in relevant and meaningful terms. One way to accomplish this is to articulate how the program is expected to affect the problem or situation which gives it its raison d'être. That is the essence of program theory (Bickman, 1987), which is a specification of why particular activities or interventions are selected, and to what desired end.

What is Theory-Based Evaluation?

Theory driven evaluation is now accepted by many as the only reasonable approach to conducting effectiveness research in program evaluation (Bickman, 1987; Chen, 1990; Lipsey, Crosse, Dunkle, Pollard, & Stobart, 1985). This approach is characterized by the use of a conceptual model (i.e. a program theory) which explicates the processes involved in the causal chain between interventions and their effects (Chen & Rossi, 1987). It identifies "factors other than the intervention that could influence outcome achievement and guides the analyses of their impact on outcomes" (Sidani & Braden, 1998, p. 12).

Program evaluation necessarily involves choosing an appropriate method for conducting the evaluation, given its purpose and the environment within which it is to be carried out. Guidelines must be established *a priori* to identify the most salient issues to be addressed, and the selection of these criteria reflects the beliefs or values of the evaluator and/or stakeholder (Chen, 1990). Values are the standards of merit or worth that underpin judgments made about program effectiveness. As noted by Kirkhart and Ruffolo (1993), a program can be judged effective on the basis of the extent to which it addresses client needs (consumer needs value frame), achieves the intended outcomes specified by its developers (goals and objectives value frame), is implemented according to the precepts of a theoretical perspective (models of practice value frame), and/or other standards. Thus, program theory guides the conceptualisation and selection of the variables used as indicators of program processes and outcomes, and enhances construct validity by explicating the relationship that is presumed to exist among those variables (Bickman, 1987). A program theory is an expression of relational statements such as "*If* the following program resources are available, *then* the following program activities will be undertaken. . . . *If* these program activities occur, *then* the following program outcomes will be produced. . . . *If* these activities and outcomes occur, *then* progress will be made toward the following program goals" (Wholey, 1987, pp. 78-79).

All social programs reflect a purposeful attempt to solve a particular problem or to deliver needed services. Program designers obviously have some theory or set of assumptions about how the program is intended to work, but that theory is often not made explicit to those who subsequently implement the program. Consequently, the program as it is actually delivered may well operate from a very different set of assumptions (Chen, 1990), particularly when many providers are involved, each of whom may have his/her own values or beliefs about how best to achieve intended results. An explicitly stated program theory, which should be formulated before an evaluation is planned, provides a schematic against which actual program operations can be examined. This allows a determination to be made of the extent to which the explicit theory accurately represents actual program operations, as conceptualized by those who designed the program, and implemented by providers in the program. If program operations or results deviate from what is expected on the basis of the explicit theory, a determination can then be made as to whether program failure (i.e. implementation is inconsistent with design) or theory failure (i.e. the conceptual model does not fit the design) best explains the findings of an evaluation (Bickman, 1987).

With this as background, the theory-based approach to establishing effectiveness is now described, using as an exemplar the Postpartum Program which was the source of data for the research discussed in this paper. *It is important to emphasize that this research was not designed to evaluate the Postpartum Program, to measure program outcomes, or to test program theory.* Rather, the researcher was attempting to clarify what actually goes on in the program. To guide identification and analysis of factors that influence nurses' choice of intervention components, as well as program effects, a conceptual model (i.e. program theory) was formulated to "explain" the relationships that were presumed to exist among program resources, activities, and outcomes (Wholey, 1987). Prior to conducting meaningful effectiveness research, it is necessary to have sound knowledge of the program to be evaluated, its intended implementation, the context within which and the population to whom it is delivered, and the most appropriate measures that should be used to assess its impact. This provides a basis from which to subsequently test the program's effectiveness (Conrad & Conrad, 1994). That is the essence of the research reported in this paper, which will now be described in more detail.

How Does Theory-Based Evaluation Work?

The Postpartum Program provides home-based nursing services to women and their newborns at the time of hospital discharge, which typically occurs within 24 to 36 hours of delivery. The documented program goal is to "*enhance, maintain and restore health and well-being of mothers within the context of family and community*" (Capital Health Authority, 1996). Program documents do not clearly specify *how* the program is expected to impact health and well-being. Explicitly stated indicators of success (performance measures) include customer satisfaction with the program, maximum duration of breastfeeding, and reduced hospital re-admission rates for mother and baby. The intervention, or the means by which those outcomes are expected to be achieved, includes the provision of health education, anticipatory guidance, physical assessment of the mother and newborn, and a feeding assessment conducted by public health nurses. It is not clear, however, exactly how the intervention is expected to contribute to achievement of outcomes (e.g. by increasing knowledge, providing support, and/or building specific skills), nor which of the activities, if any, is thought to have the most impact.

An underlying philosophy of the program is that services are client driven, providing an opportunity for women to participate in and determine their own health care (Capital Health Authority, 1996). In the absence of a clear theory or model linking allocation of program resources to program activities and effects, it is nonetheless difficult to ascertain, for example, to what extent client preferences are thought to influence the achievement of program objectives, or what client and provider characteristics could account more for program effects than the intervention itself. These types of questions are not addressed by method-oriented research approaches, but answering them is prerequisite to enhancing validity in evaluation research, and is the crux of theory based evaluation.

Research Design

The framework which underpinned the design of this study is an adaptation of Chen's (1990) model for conducting theory-driven evaluations. Chen argues that program theory should consist of two parts: 1) normative or prescriptive theory, which is derived from prior knowledge, theory, or assumptions about what *should* happen in a program, but which is often taken for granted by program designers and not made explicit; and 2) causative or descriptive theory, which specifies the causal mechanisms that link or mediate the relationship between the treatment (i.e. the intervention) and program outcomes. As Chen notes

> Normative theory provides guidance on what goals or outcomes should be pursued or examined, and how the treatment should be designed and implemented. Causative theory specifies how the program works by identifying the conditions under which certain processes will arise and what their likely consequences will be (p. 43).

Thus, to enhance the validity of causative theory, prior exploratory studies must be conducted to clarify the nature of the program which is to be evaluated (Chen, 1990; Sidani & Braden, 1998). Information from such studies can then be used to generate causative theories to subsequently test the program's effectiveness.

The **purpose** of this research, which was exploratory in nature, was to increase understanding of the linkages that exist among client needs, nursing actions, and client outcomes in the Postpartum Program. A normative theory was developed to guide the collection of information about what actually goes on in the program, in an attempt to clarify structural, process, intervening, or other mediating factors linking nursing actions to program effects. It was expected that this research might contribute to the development of a beginning causative theory about how public health nursing practice influences client outcomes in the Postpartum Program.

In Chen's (1990) model, the approach to development of program theory incorporates both a stakeholder and social science perspective. He cautions that theory constructed only from the stakeholder's view of how the program should be delivered may not be sufficiently sensitive to what actually goes on in program delivery, and that a social science perspective, based on the researcher's own expertise and knowledge, is needed to add objectivity to an evaluation. Chen (1990) labels the program as it is actually delivered by the stakeholder the *implicit program*, whose underlying theory may be made transparent when a researcher describes what is actually occurring in a program, but which otherwise often remains obscure. The theory developed from the social science perspective he calls the *explicit program theory*. Since program evaluation was not the intent in this study, no implicit program theory was developed to guide the research. What was significant to the aims of this research project was the explicit, normative program theory.

The Explicit Program Theory

The explicit, normative program theory was derived from the researcher's beliefs about the essence of public health nursing, for which the theoretical foundation has been primary health care, since long before that concept came into popular use. The primary health care approach demands that efforts continually be made by health providers in empowering clients to assume control over personal, social, and political determinants of health.

The philosophical basis for the development of the program theory about what nursing practice *should be* was the McGill Model of Nursing, which is grounded in the primary health care model of service delivery, and has "client empowerment" as an explicit value. Major features of the McGill model are a focus on overall health of family members, on responding to family needs and goals (rather than the nurse's), and on building family strengths. The proximal or short-term goal of nursing is the enhancement of individual and family coping and development (i.e. goal attainment). The distal or ultimate outcomes of nursing actions include improved health status, improved family problem-solving capacity, client satisfaction with problem resolution, and enhanced quality of life (Gottlieb & Rowat, 1987). The model is based on social learning theory, which postulates that perceptions of self-efficacy ("I can do this"-coping), as well as interest ("I want this" - goal attainment), mediate the relationship between what people know and what action they will take to improve their health (Schunk & Carbonari, 1984). Based on this model, the explicit program theory for the research was stated as follows:

> *Public health nursing interactions during which the capabilities, unique characteristics and needs of families (client) are identified and accurately interpreted, result in appropriate and responsive nursing interventions, aimed at improving family competence in achieving overall health goals, contributing to increased levels of perceived confidence and efficacy in relation to parenting.*

That is the researcher's definition of empowering nursing practice. It suggests that empowerment begins with expert assessment of the family's situation, and commitment to working with family members to help them develop the skills and knowledge they need to gain a sense of control, not only over the circumstances that brought them into contact with the health care system (in this case, the birth of a child), but of their overall life situation as well.

Methods and Procedures

A descriptive-comparative, qualitative approach to data collection and analysis was used. The participants in the study were a volunteer sample of six public health nurses involved in delivery of the Postpartum Program in a large urban setting, and clients (25) from a range of backgrounds and socio-economic groups. The clients were women between the ages of 17 and 41 years who had been recently discharged from hospital following the birth of a child.

Data collection methods included the acquisition of client demographic and social information, captured in quantitative format. Additional qualitative and quantitative information was obtained through a series of interviews with clients and nurses, from a review of nursing records (which yielded information related to time of birth, date of discharge, and case contact time recorded by nurses), and from notebooks provided to clients by the researcher, in which they were asked to track unscheduled visits made to the Health Centre and phone calls to the program's "Hotline."

Chen's (1990) theory-driven evaluation model, which guided the development of data collection tools and procedures, helped to focus and organize data analysis. Quantitative data were entered into SPSS 6.1 for Windows and analysed using descriptive statistics such as frequencies and measures of central tendency. Taped interviews were transcribed, and were then analysed with the help of the NUD*IST software computer package, which is designed for qualitative data storage, indexing, and theorising (Qualitative Solutions and Research, 1996). Content analysis was used to affix codes and identify sub-themes in the data. Consistent with the study purpose, the first level of coding segmented data into five broad categories (called nodes in the NUD*IST system). These were labelled Biographical factors (client and provider), Client Needs, Organisational Factors, Nurse and Client Actions, and Outcomes.

The research design incorporated an assessment of the implementation, treatment, and outcome components of the program environment, which is crucial to understanding presumed cause and effect relationships that account for program impacts.

1. *Implementation environment*: A program environment is generally classified along micro or macro dimensions. The micro environment incorporates the participant (client), implementor (PHN), delivery mode and implementing organisation (Regional Health Authority). The macro environment is the external environment which may influence program delivery. The latter was not a primary focus in this study.

2. *Treatment environment*: Treatment is defined as the set of activities that nurses perform in the process of delivering the program. The elements of the treatment format are its *components* (e.g. anticipatory guidance, skill building), *strength* (purity, duration, and frequency), and *application*, which is an estimation of the degree to which the planned intervention is actually delivered.

3. *Outcome environment*: This component determines whether program goals effectively guide program operations. Issues such as the specificity, consistency, and measurability of goals are addressed.

Since many of the theoretical variables or constructs in public health nursing are highly abstract (e.g. support, empowerment, advocacy), measurement of those constructs is often indirect, or assessed with instruments that are seldom error free. Hence, relatively large amounts of error are potentially introduced in measurement, unless some effort is made *a priori* to specify structural relationships among exogenous, mediating, intervening, and other endogenous variables, and provide some understanding of the underlying processes that link the variables to effects. Model specification is a means of enhancing internal validity. To specify a model, however, requires sound understanding of how and why intervention strategies are selected in a particular program. The more knowledge researchers have about the phenomenon which is being studied, the less need there is for the use of randomization as a means of controlling threats to internal validity in outcome measurement (Chen & Rossi, 1987).

In situations where the network of causes and effects is complex, understanding the "treatment," its implementation, the conditions under which it is observed, and the setting in which it occurs are essential if there is intent to reproduce or improve effects. This concern with reproducibility of results from one group of participants, treatment conditions, and observation settings to others is the essence of both construct (Conrad & Conrad, 1994) and external validity

(Cook & Campbell, 1979). When interventions are complex, administered over multiple occasions, and vary from case to case, as is typical in much public health nursing practice, a substantial amount of information must be provided to establish that "treatments" as delivered in fact account for variations in outcomes (Lipsey et al., 1985).

In this research, Chen's (1990) theory-driven evaluation model provided the basis for development of a research design that would facilitate explication of the relationships that exist among client needs, organisational issues, nursing actions, and client outcomes. The explicit program theory is grounded in primary health care, which emphasizes health promotion, self-efficacy (coping), and individual and community development (goal attainment). The theoretical program model was used as a template against which to examine actual processes, as described by clients and public health nurses. It was intended that it would provide the basis for making value judgments about effectiveness, by examining to what extent actual public health nursing practice (the implicit program) was consistent with "ideal" practice standards (the normative program) described in primary health care literature and reflected in the McGill Model of Nursing.

Application of the Normative Program Theory

In this research the explicit, normative program theory was developed to guide data collection, and to provide structure to the process of examining the linkages among client needs, nursing actions, and perceived client outcomes. Primary health care is an approach to improving population health which focusses on helping individuals assume mastery over their lives, by involving them meaningfully in interpreting their own concerns and issues (Labonte, 1994), and providing them with the tools to exercise personal control over the physical, emotional, and social determinants of health and well-being. This "ecological" approach to change has been termed empowerment, a concept that implies a belief in personal efficacy to turn concerns into effective action toward attaining desired health outcomes (Bandura, 1990). This contrasts with the more traditional "bio-medical model," within which attention centres on the treatment and restorative aspects of health care, and providers assume the primary role in improving people's health. In the primary health care context, nursing's focus is the promotion of health and well-being within a framework that incorporates family and environmental factors in explaining how nursing decisions made in specific situations reflect the expectations, values, and circumstances of clients.

The nursing role in the McGill Model of Nursing, which served as the basis from which to develop the normative program theory, is characterized by a focus on 1) developing a relationship with families and gathering information about their needs; 2) providing emotional support; 3) helping the family to look at alternatives; 4) assisting with problem solving; and 5) helping family members acquire the resources and services that best meet their needs in the quest for overall health (Pless et al., 1994). In this research, an assumption was made at the outset that public health nurses involved in the Postpartum Program inherently practised within a health promotion framework that would be consistent with the concepts of the McGill Model of Nursing. It was nonetheless expected that if public health nursing was in fact implicitly grounded in a "traditional" model of health service delivery (i.e. the bio-medical model), then significant differences would be noted between the standards of practice reflected in the normative program, and actual nursing practice (the implicit program). To better understand whether and how exposure to the McGill Model might influence nursing practice in the course of delivering service, three of the nurses were oriented to this model of practice prior to onset of data collection, and the other three continued to practice according to their own implicit model. It was assumed that differences in program processes or outcomes would only be marked between the two practice delivery models if in fact the day to day practice of the "non-McGill" nurses was inconsistent with the primary health care / health promotion framework reflected in the normative program theory. A further assumption was that the practice of the "McGill group" of nurses would be totally congruent with the primary health care approach to service delivery subsequent to their orientation.

On the basis of the normative program theory, it was expected that this research would reveal that public health nurses' contributions to the achievement of program outcomes would best be measured using indicators that capture family coping skills and goal attainment, rather than current performance indicators (e.g. breastfeeding duration, reduced hospital re-admission). The latter performance measures reflect the contribution of heath care providers other than simply nurses, are not solely attributable to the Postpartum Program, and are more aligned with a traditional approach to outcome measurement.

A sense of control or self-efficacy in managing postpartum concerns and related life situations (e.g. teen parenting) was viewed as a proximal outcome of the Postpartum Program, or the means by which distal or longer-term health outcomes (e.g. healthy child growth and development) would be accomplished. The normative theory implied that satisfaction with the program would reflect client perceptions that nurses responded sensitively to their issues, provided support, reassurance, relevant information, appropriate referral, and facilitated family goal attainment, given that those are the essential elements of an empowering approach to nursing practice, as conceptualized in the primary health care framework, and reflected in the McGill Model of Nursing.

The explicit theory provided a screen against which actual program activities were examined. In this research, primary health care principles and the McGill model sensitized the researcher to look for evidence that positive outcomes were achieved *because* nursing practice empowered clients to take responsibility for their own health once they were given the skills, knowledge, and confidence to do so. An assumption was made that in public health nursing, client needs in fact drive nursing actions, and specific program components alone (e.g. education) cannot sufficiently account for achievement of outcomes. An assertion was made that a *critical factor* in explaining whether public health nurses positively influence outcomes is the degree to which they accurately assess clients' needs for information and other forms of support, and assist individuals to successfully overcome the day to day stressors related to the postpartum period and other life circumstances.

Discussion

Although a vast array of client outcomes may be used in health care evaluation, not all are appropriate for assessing the effectiveness of specific programs or providers. Green (1985) argues that when health is viewed in positive terms, as is the case in many health care situations, the variables targeted for short-term outcome measurement should be behavioural or performance indicators for which there is persuasive evidence of correlation with longer-term health outcomes. Self-efficacy, sometimes termed personal empowerment, has received considerable attention in health research, and there is growing evidence of its predictive value in explaining the outcomes of a wide variety of health programs (Holden, 1991; Strecher, DeVellis, Becker, & Rosenstock, 1986). The concept of self-efficacy provides a means for beginning to isolate some of the factors which may explain variations in health status, and increase provider knowledge about appropriate mechanisms for increasing competence related to health behaviours. It is assumed that individuals who feel in control of the situations which they face on a day to day basis, and who have confidence in their ability to adopt behaviours which will enhance their sense of well-being, are less likely to experience physical or emotional dysfunction. If that is the case, indicators of well-being (i.e. positive health indicators such as coping) should provide proximal measures of success in achieving the more distal goal of reducing overall morbidity and mortality. The role of providers in this "wellness" model of health is thus to facilitate the development of skills, knowledge, and attitudes which enhance feelings of competence in managing day to day life situations, in a manner that contributes to overall well-being. That is in essence the definition of health promotion.

Self-efficacy is assumed to offer a reasonable explanation for the success of at least some public health nursing programs (Olds & Kitzman, 1990). In the absence of specific indicators of the linkage that exists among client needs, nursing interventions, and client outcomes, it is nonetheless extremely difficult to assess whether or how empowerment (i.e. health promotion) accounts for the effectiveness of public health nursing programs. Given the vast number of potentially useful outcomes for measuring the impact of nursing practice (Lang & Marek, 1992; Naylor, Munro, & Brooten, 1991) theory is crucial in effectiveness research, since it provides the guidelines for selecting relevant indicators, analysing phenomena and understanding the significance of research findings (Chen, 1990).

Traditionally, however, effectiveness research in nursing generally (Sidani & Braden, 1998), and in public health nursing specifically (Hayward et al., 1993) has tended to be of an atheoretical nature. The influence of factors such as client, provider and setting characteristics on client's responses to nursing interventions have frequently been ignored in research designs (Hayward et al., 1993; Sidani & Braden, 1998), and researchers often fail to make explicit the rationale used in selecting indicators of the expected relationships among structure, process, and outcome variables (Lang & Marek, 1992).

Perhaps of most relevance to public health nursing, much of the research conducted to date has failed to adequately address some of the central tenets of practice, in which health promotion (the "what" of public health nursing) is assumed to play a major role. The tendency to measure nursing's impact by reference to clients' bio-medical health outcomes has limited the development of theory relevant to public health nurses' health promoting practice, contributing to the problem of "poorly defined interventions and poorly recognized nursing expertise" (Hayward et al., 1993, p. 15). Consequently, despite the rhetoric of primary health care which characterises current health care reform, the pressures of cost containment are such that the health promoting role of public health nurses appears to be undervalued by policy makers, politicians and program developers (Hagan, O'Neill, & Dallaire, 1995). If politicians are to be made accountable for making primary health care the focal point of the health system (Health Canada, 1994; Alberta Health, 1995; Capital Health Authority, 1995), then research relevant to that policy agenda is needed as the basis from which to direct action in the health sector (Hayward et al., 1993).

The research described in this paper reflects the author's belief that public health nursing's focus should be on helping people assume control and mastery over their lives, through the provision of needed skills, knowledge and other resources in a supportive, non-controlling manner. The normative program theory developed to guide the research process identified as specific strategies for achieving that goal a "positive" health orientation, expert assessment of the family's situation, and commitment to helping family members attain or maintain a sense of control over their day to day lives. Specifying a program theory prior to examining nursing practice was intended to facilitate identification of factors presumed to influence nurses' ability to achieve their health promotion goals. The normative theory represents an attempt to develop a practice framework that is consistent with policy directives in a changing health care system, and makes explicit the role of public health nurses within the context of health care reform. This provides a mechanism for identifying actions that could be taken to strengthen health care programs, if stakeholders agree that the normative theory provides an adequate representation of the approach that should be taken in delivering public health nursing programs within the current health care environment.

References

Alberta Health. (1995). *A three year business plan, 1995-96 to 1997-98*. Edmonton, AB: Author.

Bandura, A. (1990). Perceived self-efficacy in the exercise of control over AIDS infection. *Evaluation and Program Planning, 13*, 9-17.

Bickman, L. (Ed.). (1987). The functions of program theory. In *Using program theory in evaluation. New Directions for Program Evaluation, 33* (pp. 5-18). San Francisco: Jossey-Bass.

Capital Health Authority. (1995). *Health within reach.* Report of the Public Health Services Task Force to the Capital Health Authority. Edmonton, AB: Author.

Capital Health Authority. (1996). *Healthy Beginnings Postpartum nursing manual*. Edmonton, AB: Public Health Services, Community Health Promotion and Prevention Services.

Chen, H-T. (1990). *Theory-driven evaluations*. Newbury Park: Sage.

Chen, H-T., & Rossi, P. H. (1987). The theory-driven approach to validity. *Evaluation and Program Planning, 10*, 95-103.

Ciliska, D., Hayward, S., Thomas, H., Mitchell, A., Dobbins, M., Underwood, J., Rafael, A., & Martin, E. (1994). *The effectiveness of home visiting as a delivery strategy for public health nursing interventions - A systematic overview* (Paper 94-7). Hamilton, ON: Quality of Nursing Worklife Research Unit, McMaster University - University of Toronto.

Combs-Orme, T., Reis, J., & Ward, L. D. (1985). Effectiveness of home visits by public health nurses in maternal and child health. An empirical review. *Public Health Reports, 100*(5), 490-499.

Community Health Information Systems Working Group. (1994). *Outcome indicators[1] : A review of the literature and framework for development*. Ottawa, ON: Canadian Institute for Health Information.

Conrad, K. J., & Conrad, K. M. (1994). Reassessing validity threats in experiments: Focus on construct validity. In K. J. Conrad (Ed.), *Critically evaluating the role of experiments. New Directions for Program Evaluation, 63* (pp. 5-25). San Francisco: Jossey-Bass.

Cook, T. D., & Campbell, D. T. (1979). *Quasi-experimentation. Design and analysis issues for field settings*. Boston: Houghton Mifflin.

Donabedian, A. (1988). Quality assessment and assurance: Unity of purpose, diversity of means. *Inquiry, 25*, 173-192.

Emde, R. N. (1988). Risk, intervention and meaning. *Psychiatry, 51*, 254-259.

Gottlieb, L., & Rowat, K. (1987). The McGill Model of Nursing: A practice-derived model. Advances in Nursing Science, 9(4), 51-61.

Green, L. W. (1985). Some challenges to health services research on children and the elderly. Health Services Research, 19(6), 793-815.

Griffiths, P. (1995). Progress in measuring nursing outcomes. Journal of Advanced Nursing, 21, 1092-1100.

Hagan, L., O'Neill, M., & Dallaire, C. (1995). Linking health promotion and community health nursing: Conceptual and practical issues. In M. J. Stewart (Ed.), Community nursing: Promoting Canadians' health (pp. 413-429). Toronto, ON: W. B. Saunders Canada.

Hayward, S., Ciliska, D., Mitchell, A., Thomas, H., Underwood, J., & Rafael, A. (1993). Evaluation research in public health nursing. A background paper for "Systematic overviews of the effectiveness of public health nursing interventions." (Paper 93-3). Hamilton, ON: Quality of Nursing Worklife Research Unit, McMaster University - University of Toronto.

Health Canada. (1994). Strategies for population health. Investing in the health of Canadians. Ottawa, ON: Communications Directorate.

Holden, G. (1991). The relationship of self-efficacy appraisals to subsequent health related outcomes: A meta-analysis. Social Work in Health Care, 16 (1), 53-93.

Jennings, B. M. (1991). Patient outcomes research: Seizing the opportunity. Advances in Nursing Science, 14(2), 59-72.

King, M., Harrison, M. J., & Reutter, L. I. (1995). Public health nursing or community health nursing: What's in a name? In M. J. Stewart (Ed.), Community Nursing: Promoting Canadians' health (pp. 400-412). Toronto, ON: W. B. Saunders Canada.

Kirkhart, K. E., & Ruffolo, M. C. (1993). Value bases of case management evaluation. Evaluation and Program Planning, 16, 55-65.

Koepsell, T. D., Wagner, E. H., Cheadle, A. C., Patrick, D. L., Martin, D. C., Diehr, P. H., Perrin, E. B., Kristal, A. R., Allan-Andrilla, C. H., & Dey, L. J. (1992). Selected methodological issues in evaluating community-based health promotion and disease prevention programs. Annual Review of Public Health, 13, 31-57.

Labonte, R. (1994). Health promotion and empowerment: Reflections on professional practice. Health Education Quarterly, 21(2), 253-268.

Lang, N. M., & Marek, K. D. (1992). Outcomes that reflect clinical practice. In Department of Health & Human Services, Patient outcomes research: Examining the effectiveness of nursing practice. Proceedings of the State of the Science Conference sponsored by the National Center for Nursing Research (pp. 27-38). Bethesda, MD: Public Health Service, National Institute of Health.

Lipsey, M. W. (1990). Theory as method: Small theories of treatments. In L. Seecrest, E. Perrin & J. Bunker (Eds.), Research methodology: Strengthening causal interpretations of nonexperimental data (pp. 33-51). U.S. Department of Health and Human Services, Public Health Service, Agency for Health Care Policy and Research.

Lipsey, M. W., Crosse, S., Dunkle, J., Pollard, J., & Stobart, G. (1985). Evaluation: The state of the art and the sorry state of the science. In D. S. Cordray (Ed.), Utilizing prior research in evaluation planning. New Directions for Program Evaluation, 27 (pp. 27-27). San Francisco: Jossey-Bass.

Lohr, K. M. (1988). Outcome measurement: Concepts and questions. Inquiry, 25, 37-50.

Naylor, M. D., Munro, B. H., & Brooten, D. A. (1991). Measuring the effectiveness of nursing practice. Clinical Nurse Specialist, 5(4), 210-215.

Olds, D. L. (1992). Home visitation for pregnant women and parents of young children. American Journal of Diseases of Children, 146, 704-708.

Olds, D. L., & Kitzman, H. (1990). Can home visitation improve the health of women and children at environmental risk? Pediatrics, 86(1), 108-116.

Ozbolt, J. G. (1992). Strategies for building nursing data bases for effectiveness research. In Department of Health & Human Services, Patient outcomes research: Examining the effectiveness of nursing practice. Proceedings of the State of the Science Conference sponsored by the National Center for Nursing Research (pp. 210-218). Bethesda, MD: Public Health Service, National Institute of Health.

Pless, I., Feeley, N., Gottlieb, L., Rowat, K., Dougherty, G., & Willard, B. (1994). A randomized trial of a nursing intervention to promote the adjustment of children with chronic physical disorders. Pediatrics, 94(1), 70-75.

Qualitative Solutions and Research. (1996). User's guide for QSR NUD*IST (Revision 3). Sage: Scolari.

Schunk, D. H., & Carbonari, J. P. (1984). Self-efficacy models. In J. D. Matarazzo, J. A. Herd, N. E. Miller & S. M. Weiss (Eds.), Behavioral health (pp. 230-247). New York: Wiley & Sons.

Sidani, S., & Braden, C. J. (1998). Evaluating nursing interventions. A theory-driven approach. Thousand Oaks, CA: Sage.

Strecher, V. J., DeVellis, B., Becker, M. H., & Rosenstock, I. M. (1986). The role of self-efficacy in achieving health behavior change. Health Education Quarterly, 13 (1), 73-91.

Strickland, O. (1997). Outcomes research. Are we rigorous enough? Reflections, 23(1), 8-10.

Vahldieck, R. K., Reeves, S. R., & Schmelzer, M. (1989). A framework for planning public health nursing services to families. Public Health Nursing, 6(2), 102-107.

Wholey, J. S. (1987). Evaluability assessment: Developing program theory. In L. Bickman (Ed.), Using program theory in evaluation. New Directions for Program Evaluation, 33 (pp. 77-92). San Francisco: Jossey-Bass.

CHAPTER 3

Public Health Nursing:

A Comparison of Theoretical and Actual Practice

PUBLIC HEALTH NURSING:

A COMPARISON OF THEORETICAL AND ACTUAL PRACTICE

Introduction

The focus on effectiveness, quality, and outcomes as key markers of accountability is clearly evident in today's health care environment (Alberta Health, 1998). Effectiveness is a measure of the degree to which intended results have been achieved, judged against acceptable standards of practice, which gets to the heart of quality (Sidani & Braden, 1998). To enhance quality, the linkage that exists between provider actions and client outcomes must be established, since quality is a function of both technical and interpersonal dimensions of care (Macleod Clark, Franks, Maben, & Latter, 1997). Furthermore, high quality care should ideally be tailored to specific client needs, which in turn influence the type and intensity of resources required to achieve results. An integrated framework for establishing effectiveness must therefore make explicit the relationship that exists among structure, process, and outcome dimensions of care (Jennings, 1991; Sidani & Braden, 1998).

Most health outcomes reflect the effects of many factors and multiple providers over time. To demonstrate accountability for professional practice, it is necessary to delineate the roles and functions of specific providers (Gilchrist, 1973/1997a), and to explicate why particular interventions are selected when delivering care. Explaining outcomes on the basis of deliberate interventions demands a theoretical approach to practice and measurement (Hinshaw, 1992; Sidani & Braden, 1998). Theoretical frameworks make explicit the standards and goals of practice, the nature of the problems addressed, and the choice of variables used as indicators of program structure, process, and outcomes (Fawcett, 1992). Thus, theory clarifies what criteria are used in making judgments about the effectiveness of practice (Kirkhart & Ruffolo, 1993).

The goal of public health nursing (i.e. the promotion of health and prevention of disease), provides the basis for nursing interventions at the individual, family, and community levels (Canadian Public Health Association, 1990). Despite claims that public health nurses have embraced the primary health care notion of health promotion in theory (Chalmers & Gregory, 1995; Cradduck, 1995; Rodger & Gallagher, 1995), there is evidence to suggest that this "new paradigm" view has yet to become operational in practice (Benson & Latter, 1998; Hagan, O'Neill & Dallaire, 1995). This may be due in part to a failure to use theoretical frameworks grounded in primary health care philosophy as a guide to practice (Chalmers & Gregory, 1995; Stewart, 1995). The McGill Model of Nursing, developed during the 1970s at the School of Nursing at McGill University in Montreal (Gottlieb & Rowat, 1987) is one nursing model that explicitly focusses on the health promoting role of nurses (Hagan et al., 1995). It was used as the basis for developing a normative program theory for this research, because its structure and substance are consistent with currently held conceptions of the role of public health nurses in today's health care system (Stewart & Langille, 1995).

In this paper, selected results are presented from a study that aimed to increase understanding of the linkages that exist among client needs, nursing actions, and client outcomes in a Postpartum Program primarily delivered by public health nurses. A theoretical framework (i.e. a program theory) within which to examine nursing practice was developed, to guide the exploration of nurses' focus and actions in the course of delivering program services. The program theory was grounded in primary health care philosophy and principles, and was derived from current literature about the health promoting role of nurses practising in Canada (Stewart, 1995). Consequently, it was assumed that nursing practice would be characterized by a "positive" view of health, meaning that needs assessment would incorporate a determination of clients' sense of control over their day-to-day life situations, and of their perceived capacity to attain personal and family long-range health goals. It was also presumed that clients would be actively involved with nurses in the process of clarifying mutual purpose and goals with respect to the nurse-client interaction, and in specifying what activities would be undertaken in working toward desired change (Cradduck, 1995; Labonte, 1994; Plough & Olafson, 1994). It is the aim in this paper to make explicit the assumptions underlying a primary health care practice framework, and to contrast that with what was discerned empirically in this research.

Methods and Procedures

The unit of analysis for this qualitative, exploratory research was six public health nurses involved in delivery of the Postpartum Program in a large urban setting, and clients (25) from a range of socio-economic strata and family structures. The Postpartum Program provides home-based nursing services to women and their newborns at the time of hospital discharge, which typically occurs within 24 hours to 36 hours of normal vaginal delivery. The program is staffed by a complement of permanent and casual public health nurses, and operates Monday to Friday out of each of nine Health Centres situated in various geographic areas of the region. On week-ends, service delivery occurs out of only six Health Centres located in four quadrants of the region. Program goals reflect an emphasis on providing not only a cost-effective and safe alternative to hospital care, but also on encouraging women to participate more fully in determining and addressing their own health needs (Capital Health Authority, 1996). This latter goal implies a commitment to involving clients in mutual decision-making related to planning and implementation of health care strategies.

Volunteer sampling was used to recruit public health nurses. The program, as currently delivered within the organisation in which the study was conducted, did not have an *explicit* theoretical underpinning. To better understand whether and how practising from the McGill Model of Nursing perspective would influence program activities and outcomes, three of the nurses received instruction in the model at the outset of the study. The other three continued to practice according to their own implicit model.

Once recruited, nurses were asked to inform all new postpartum clients on their caseload of the study, and request permission to have the researcher contact them, to explain the project in detail and solicit participation. All volunteer clients meeting the criteria were considered by the researcher, until it was determined that no new information would likely be obtained by expanding the sample size. The final client sample was comprised of 25 women. Signed client consents were obtained by the researcher during the first interview. Ethical approval for the study was obtained from the researcher's academic institution, as well as from the agency in which the study was conducted.

The majority of data were obtained through face-to-face interviews with participating nurses and clients. Initial interviews with each nurse elicited overall perceptions about the program, and additional interviews were conducted at the time of discharge of each of her clients from the program. These interviews yielded data about nurses' goals and aspirations in relation to the program, their usual approach to clients, perceived constraints in providing services, typical concerns addressed in their interactions with clients enrolled in the study, what kinds of decisions were taken, and what outcomes they felt were achieved.

Interviews were conducted with participating clients on three occasions: 1) within two weeks of entry into the program; 2) when the infant was about two months of age (the "official" time of exit from the program); and 3) at about six to seven months. The latter interview was conducted by telephone. The series of interviews was intended to 1) provide information about perceived client needs, and the nature and extent of interaction between clients and public health nurses over time; 2) elicit perceptions about program effects of significance to clients; and 3) ascertain client views about potential areas for program improvement.

The data were collected from February through November, 1997. Client interviews were conducted in their homes, and nurses were interviewed in their place of work. All interviews were tape recorded and transcribed verbatim. Transcribed data were organised and analysed using the NUD*IST computer program, a computer package designed for qualitative data storage, indexing, and theorising (Qualitative Solutions and Research, 1996). The data were initially categorised according to the main components of the interviews - client needs, program structure, nurse and client actions, and outcomes - and then coded for sub-themes which emerged in each major category. Coding ended when it was felt that all sections of transcribed data were adequately captured within the categories that emerged (Miles & Huberman, 1994).

Findings

Biographical Details

Maternal age at the time of delivery ranged from 17 to 41 years. Thirteen women had college or university degrees, and twelve had grade 12 education or less. The education of four young women had been interrupted by the pregnancy. About one-third (8/25) of the clients had family incomes below $20,000 and almost as many (7/25) had incomes over $50,000 annually. The majority of clients were married (17) or living in stable common-law relationships (2). One-quarter (6) were single and either living alone or with the baby's father. Three teenage mothers who were co-habiting with the baby's father at the time of the initial interview had severed that relationship by the final interview. Another was anticipating a custody hearing with the baby's father. More than one-half (14) of the clients were first time mothers, seven of whom had not attended prenatal classes.

All six of the nurse participants had baccalaureate degrees in nursing, and were Certified Lactation Consultants. Length of time in public health nursing ranged from one to 20 years (mean 10.2), and all were experienced in the provision of services to postpartum families. The three nurses assigned to the McGill group had expressed interest in learning about this model of practice, attended orientation sessions, were provided with reading materials as a reference, and were offered the opportunity to consult with a research assistant should they so desire at any time during the course of the study. The research assistant was a graduate student in nursing who had developed expertise with the McGill Model of Nursing. As the study progressed, it became obvious that the practice of the McGill group of nurses had not been substantially transformed by their introduction to this model of nursing. In retrospect, it became clear that the nurses' orientation to the McGill model of nursing was of insufficient strength, duration and intensity to alter practice. Findings are therefore reported for the total nurse/client sample as a homogeneous group.

In answering the research question:

> *How does an explicit theoretical approach to nursing practice influence interpretation of the relationship that exists (or should exist) among client needs, organisational structure, nursing interventions, and client outcomes (the normative program)?*

the relationships *that would have been expected* had nursing practice been congruent with the normative program theory were contrasted with what was actually discerned during the course of the study. Subtle differences in approach among nurses in each of the two service delivery conditions are highlighted where relevant, but were in fact relatively minimal. Findings of the study are presented by systematically reviewing the theoretical assumptions of primary health care within each component of a conceptual model of practice (e.g. standards and goals of practice, nature of the problems, structure/process/outcome variables), and comparing "ideal" practice with "actual" data obtained in this research.

Standards and Goals of Practice

In considering primary health care as the philosophical underpinning of public health nursing practice, it is important to distinguish between health education and health promotion, which are complementary but distinctive approaches in health care. Health education is aimed at behavioural or lifestyle change, while health promotion is concerned with the creation of living conditions which increase people's overall experience of well-being (Hartrick, Lindsey, & Hills, 1994), incorporating health education as but one of many strategies. It is the latter conceptualisation that is reflected in the McGill Model, in which health promotion is viewed as a process of enabling individuals to overcome problems or difficulties in coping or adjusting to events of daily living, crisis situations, or medical conditions (Gottlieb & Allen, 1979/1997). That sense of the value of nursing as complementary to that of other health professionals is at the very core of the McGill Model of Nursing (Allen, 1997), which delineates nurses' role as assisting clients to explore their potential for healthy living (Allen, 1981/1997). The International Council of Nurses (1996) also notes that effectiveness in nursing practice involves demonstrating that nursing is more than an activity supporting medicine, that it makes a significant contribution to health in its own right.

The nurses in this study appeared to function in the role which Allen (1997) describes as "replacement of the physician" (p. 164). They demonstrated confidence in their knowledge and ability to effectively monitor and safeguard mothers and babies, facilitate breast feeding, and provide information and support related to postpartum adjustment and infant / child health. Some nurses felt that physicians were "involved more than they needed to be" in the provision of postnatal services, resulting in duplication and waste of professional resources.

> Public health nurses need to be [given more] responsibility for monitoring these babies . . . for looking after them. A lot of the family physicians and pediatricians are involved with these babies. Rather than just leaving them to us, I think there are many reasons why physicians remain involved, or get involved, more than they need to. They don't understand who we are, what our qualifications are, or how closely we monitor these babies, and so that 's the motivation for some of them.

There was substantial evidence that clients viewed the public health nurse as an adjunct to the physician, and in some cases, they felt the nurse was the preferred provider for assistance with breast feeding concerns and " to answer questions about mothers and babies, because they see so many . . . and have all the answers at their fingertips." Clients often praised the "medical" expertise of public health nurses involved in delivery of the Postpartum Program ("with [phn] I have the medical background . . . the experience. I have the more secure . . . the medical kind of understanding, which is wonderful to relate to"). They generally reported an increased sense of security from having access to "somebody who knows what she's doing, and there when she's needed."

The direct care and teaching role of nurses is relevant to primary health care practice, but of itself does not sufficiently address the goal of health promotion, that being to assist individuals to "understand and achieve their highest possible level of health" (Canadian Nurses Association, 1992). To attain that goal, nurses must openly discuss health and well-being with clients (Canadian Nurses Association, 1988), which requires exploration of individuals' perceptions about themselves and their health-influencing behaviours. Public health nurses did not appear to inquire into clients' beliefs and values about health, nor to deal in depth with challenges faced by some of the clients, particularly single and/or teenage mothers. Although they were generally aware of the clients' social situation, they seemed to avoid openly addressing emotional matters. Opportunities to engage clients in working toward the development of improved coping skills were either inadvertently missed or consciously evaded, as exemplified by the following comments made by one of the nurses in the McGill group.

> She talked about friends and . . . I take that at her word . . . but over time [I thought] I don't think she really does have that much support. . . . I think we zeroed in more on the . . . depression. I was mostly concerned about that, thinking about the baby. Was the baby safe? And overall, I got that impression. . . . Well, I guess too, she talked about being depressed [for a long time], and I wondered "Has there been anything that she's found helpful? Like, is she thinking this is hopeless?" . . . '*Did you talk to her*

> *about that?'* No, not really. The first couple of visits she kept saying everything was fine. It was after that [our contact] just kind of got cut off.

The nurses in this study perceived their primary function in the program as providing information and support to postpartum mothers and their babies ("my aspirations in relation to the program? . . . To make mothers feel comfortable going home from hospital, to know they aren't alone, that they can call on us. . . . It's satisfying to know you've provided them with a lot of reassurance, a bit of advice"). None of the nurse participants seemed to envision the postpartum contact as an opportune time to foster examination of child and family development within the broad context of social and environmental determinants of health. Nurses who had been introduced to the McGill Model expressed more concern and frustration than their non-McGill colleagues about a perceived lack of community resources, and ineffective inter-agency or inter-disciplinary communication, which at times impeded their ability to provide needed support to some families

> I think there's a definite lack of good liaison between the hospitals and the community. . . . I would like to be able to resolve problems with the client, but sometimes the resources just aren't out there . . . [when there are social or environmental problems] the resources are limited at the moment. They're limited, and there are waiting lists.

It was acknowledged by some of the nurses that time and resource constraints were such that greater attention was usually given to dealing with the physiological concerns of mothers and babies

> Some days it's a bit much. And it's hard . . . you want to provide the best service, and be as available as everybody wants us to be to them . . . but some days you have to juggle.
>
> The easiest goals to accomplish are those related to . . . feeding, more of the medical types of things, whereas the supports, and the linkages and so on, those are definitely more difficult . . . and I guess things like coping, because that's long-term. You don't know how she handles that.

Since interactions with clients centred primarily around giving information and support, professional relationships tended to be somewhat didactic, with the nurse as expert and the client as the very grateful beneficiary of her vast knowledge of, and experience with, mothers and babies ("the nurse can help me [be the mom I want to be]. She came in, and she helped me learn how to breastfeed properly. She [baby] wasn't doing that initially. Once [nurse] came in and showed me how to do it properly then that was much better"). This is consistent with what Gottlieb (1982/1997) describes as the "teaching" framework underpinning practice.

Problems Addressed

In assessing effectiveness, the "problem" which gives the program its raison d'être determines the appropriateness of selected interventions (Sidani & Braden, 1998). The "negative" conceptualisation of health which surfaced during interviews with both public health nurses and their clients reflects a strong orientation toward the bio-medical model, in which there is an expectation that the health care system should assume major responsibility for improving the health of people, and health tends to be viewed as the absence of disease or risk factors. This is captured in the following comment made by one of the non-McGill nurse participants:

> It's really important for these moms to nurse these babies, and if they can nurse those babies well, that seems to be the main goal of the [postpartum] visit . . . when we first started the program, we thought that we'd have postpartum haemorrhages, perineal infections and all kinds of other problems, you know. We're checking for this, and we're checking for that, and really, our yield is almost zero, in terms of all the things we're checking for. Our time is spent assisting with breastfeeding, and if we can get those babies nursing well, we're happy and the mother's happy. It turns out to be 95% of the work, and the challenges for the mother and the nurse, in most cases.

It is very evident that clients also hold a negative view of health, and have not been challenged to consider health as a positive concept which encompasses the creation of a satisfying and fulfilling life. "If we were having trouble breastfeeding, it would be good to have someone who could help with it, but since we're not, I can't really think of anything" [that the nurse could do]. Since public health nurses interact with virtually all young families, either during the postpartum period or through the provision of early childhood services, they are ideally positioned to promote the participation of individuals and families in their "health" development (Canadian Nurses Association, 1988). To do so would nonetheless require a re-orientation of practice and a re-conceptualisation of the meaning of health.

Unquestionably, clients have many needs related to physiological and psychological adaptation in the early postpartum phase (Tanaka Collins, 1995), and those must be attended to before the family will agree to engage in broader health issues. Most clients were satisfied that public health nurses had responded more than adequately to their concerns, and a few commented that family status and interactions had been explored, albeit rather superficially ("Well, I guess it's [the program] to care for new mothers and their new babies. Well, it's probably more, it's probably centred on the whole family actually . . . there were questions about the siblings and my husband"). It was nonetheless evident from the data that needs assessment reflected a bio-medical approach to health care delivery, rather than the model of health promotion in which "positive" health plays a central role. As one client noted "perhaps a little more visiting would be good, because the family issues didn't make it to the top. As soon as the dust settles and the [priority physiological needs are dealt with], that's it. There are no more visits." The data revealed unequivocally that public health nurses in the Postpartum Program were viewed as informative and supportive, and were highly valued by clients, but no evidence of "true" health promoting practice (Shannon, 1985/1997) was found in this research.

For many clients, the "problem" that brings them into contact with the health care system (in this case the birth of a child) is the only concern for which they need or want assistance from health care personnel. Certainly, not all clients require long-term contact with public health nurses, and many families are goal directed and eminently capable of taking responsibility for their own health. It is nonetheless expected that nurses should be capable of identifying and responding appropriately to those situations where more intense services and support are needed. Practising from a conceptual framework such as the McGill model of nursing would enable nurses to better assess the needs of families, and to prioritise service delivery accordingly.

Program Structure

The documented goal of the Postpartum Program is "to enhance, maintain, and restore the health and well-being of mothers and newborns within the context of family and community." One stated means of achieving this is "by providing an opportunity for women to participate in and determine their own health care" (Capital Health Authority, 1996, p. 7). Active client participation in problem identification and decision-making, and "positive" health are thus apparent ideals for the program.

To strengthen client participation, however, it is important not only to address the specific concerns which clients identify. *Health* should also be promoted by placing those concerns within the broader context of individual or family functioning, and gauging clients' interest in establishing long term plans for health (Gottlieb, 1982/1997). There was no evidence in this study that expectations and goals of care were discussed by nurses in a manner which could be described as truly health promoting. In those circumstances when nurses were aware of client goals (primarily among the McGill group of nurses), those were largely restricted to intentions related to postpartum adjustment, rather than longer-term plans for family development.

> Her main concern was just coping with the frustrations that she had, like suddenly this new schedule, this baby that I don't know what to do with, so we explored the different resources that she had, because she was crying that first visit. We talked about the importance of looking after herself, and using those different resources, and then just answering her questions.

Clients expected nurses to help them cope with fears and concerns about postpartum recovery and child care. They were not predisposed to viewing the nurse as a resource in the acquisition of knowledge and skill related to managing life's broader challenges, such as dealing with conflicted relationships, inadequate finances, or lack of education. Unless clients are invited to openly discuss these issues with the nurse, they are not likely to surface during interactions, even when clients are encouraged to ask questions and identify concerns or worries. This is exemplified in the case of one adolescent mother who felt that the program was all about "probably making sure that we're OK, and seeing if we need help with anything, or have any questions."

The content of interactions with clients in the postpartum program is greatly influenced by recording tools and guidelines (see Appendix C). As one of the nurses in the McGill group noted "although you may initially or inherently have a certain . . . approach, given the tools that you're working with, sometimes you can stray very easily from that approach. In your whole assessment, you're geared to following this tool . . . which is very medically oriented . . . and the family focus gets lost. The tool is a handicap, not an enhancement to practice." Comments that the recording system constrained their ability to view the family holistically were made by all three of the nurses who had been introduced to the McGill Model, but by none of the others.

One of the fundamental principles of primary health care is accessibility to continuing and organised care that is sufficient in content and amount to satisfy the perceived health needs of clients, provided in a manner that is acceptable to them (Canadian Nurses Association, 1988). Nurses were generally unaware of circumstances when services exceeded, or fell short of, what was expected or desired by clients. It was therefore not possible for them to advocate for system changes that would bring services more in line with what clients said they want or need. Several clients expressed a desire to have more home visits, and/or to have visits or phone contacts with the nurse spaced over a longer period of time ("Recommendations? Maybe to have every nurse call you back a couple of times at least, whether you're having problems or not. You might not be having any problems at first, but then something might come up and you might not feel like phoning, if you're that type of person"). All of the single, teenage clients commented that they would have benefited from more contact with the public health nurse. A few clients noted that while nurses were very clear that additional visits could be made, there was discomfort in requesting the visit because of the manner in which it was offered. "Perhaps it's the way that you ask, 'do you *need* another visit?' Well, no, I don't *need* another visit . . . but one more would have been really nice." An empowering approach to practice would require that clients be given more opportunity to negotiate the nature and frequency of follow up contacts they have with public health nurses (Stewart & Langille, 1995). Nurses commented that unpredictable workloads, cumulative numbers of clients on their caseload, and staffing schedules which require them to rotate out of the postpartum program (e.g. to staff child health or special immunisation clinics) sometimes makes it difficult to consistently provide even the minimum level of service recommended in program guidelines.

The recipient of care (i.e. the client) in the Postpartum Program is clearly the mother and her baby. In the words of one nurse "the main goals are to ensure that the mother and baby are in a safe environment, and any health needs are met . . . and if there's any health problems, that they have access to us, or . . . to their physician, or back to the hospital. That . . . safety and health of the mother and baby, are our main concerns." Holding that narrow perspective of "client" blinds nurses to the possibilities that exist for working collaboratively with program clientele to attain greater levels of family health and well-being. Redefining the client population as "families in transition" would possibly prompt nurses to give more attention to the broad health needs of the individual or family over an extended period of time (Allen, 1977/1997).

If public health nurses in this program are to be a catalyst in the movement toward health for all (Canadian Nurses Association, 1988), modifications will be required in terms of what is now considered an essential skill base. Current preparation for practice incorporates the development of technical skills in managing breast feeding and other postpartum needs of mothers and babies. "We were given very good training when we started the program, including going to the hospital to do blood work, and making sure that we were comfortable doing it. As far as jaundice goes . . . I think we had half a day with one of the physicians in the hospital." Another nurse (McGill group) could not recall any "focus on family issues during orientation." If the target population was to be redefined to bring this program more in line with primary health care philosophy, required nursing competencies would also need to encompass knowledge and skills related to *health* and family assessment, and to the properties of transitions, such as changes in identity, roles, relationships, and abilities related to effective parenting and family development (Schumacher & Meleis, 1994).

As currently structured, the Postpartum Program does not easily facilitate active client participation in *health* development of individuals and families. Administrative expectations, agency protocols, professional expertise, and problem definition all reflect an orientation toward a "traditional" delivery system (Gilchrist, 1973/1997b) that is inconsistent with primary health care philosophy. Since nursing practice is influenced by program structure (Mitchell, Ferketich, & Jennings, 1998), it is not surprising to find that the performance of public health nurses is more in keeping with a medically oriented role than with the extended role exemplified in the McGill Model (Allen, 1977/1997), and advocated by professional nursing organisations (Canadian Nurses Association, 1988; International Council of Nurses, 1996).

Program Processes

Nursing practice grounded in health promotion philosophy is distinctive in its orientation. Since it's focus is *health*, the actual problem which brings the client into contact with the health system, though certainly not discounted, is seen as an opportunity to generate client interest in pursuing a broader health agenda. Recognizing that health is learned within a social and environmental context, interactions involve either the entire family, or individuals as they are influenced by, and affect the family. When health is defined as a feeling of being in control over life's circumstances, it follows that its assessment necessarily must actively involve the client. An exploratory stance is thus taken in assessing client needs and interests, and client participation is sought in developing and implementing plans for achievement of desired ends. Evaluation comprises a determination of the extent to which proximal goals have been achieved, and further elaboration of plans for ongoing development. The process is cyclical and continuous, rather than episodic (Benson & Latter, 1998; Cradduck, 1995; Gottlieb, 1982/1997).

Nursing practice consistent with this health promotion paradigm was minimal in this study. Given the bio-medical conceptualisation of health held by practitioners and clients alike, it is to be expected that the nurse would be seen as an "expert" and valued for her ability to promote client self-confidence in managing concerns related to postpartum adjustment and infant care. Nursing assessment was characterized by a health maintenance and risk reduction approach (Neufeld & Harrison, 1995) as exemplified by the following comments.

> Well, I guess [I did] the same as I do for most clients that I see. I evaluate their home situation, their social situation, their coping skills . . . as you can see when you're talking to the mom, and by the questions you're asking . . . to see if there would be any potential problem.

Although nurses made a genuine effort to be sensitive and responsive to client needs, their interaction style tended to be instructive and supportive rather than truly participatory. As a consequence, the depth and breadth of concerns that surfaced during nurse-client interactions tended to be largely pre-determined by somewhat "routinized" approaches to assessment.

> She just asked how he was doing, how the baby was doing, any concerns . . . providing information. If I needed any information, she would re-direct me to wherever I could get it from. Of course, they asked if I wanted a physical, did the work-up on him. When I had a concern about breastfeeding, she went more in depth. When I had requested some information, she really was thorough about providing it. She was really friendly, and very easygoing, and she checked out the crib in the bedroom and we found it wasn't up to standards . . . and then she just looked around to see if there was any safety hazard, and you know . . . [she went] just above and beyond.

There was little evidence that clients were actively involved in discussion of concerns that were contextually relevant to their unique social circumstances. Although single, teenage mothers frequently, though not always, received more follow up than other clients, the focus of these contacts was pretty much restricted to seeing "how things are . . . how the baby's doing and things like that." There was nothing to suggest that nurses overtly addressed the unique developmental characteristics of adolescents (Gillis, 1994), or challenges faced in adjusting to premature parenting (Van Dover & Mitchell-DiCenso, 1995) in their interactions with teenage or single mothers. Specific client problems and goals were circumscribed within the realm of the "usual" concerns of first time or multiparous mothers, and there was little variation in the type of needs identified across clients. The concept of "social determinants of health," where differences in clients influence differences in approach (Purkis, 1997), did not appear to form the basis of practice.

Since nurses' role in the program is identified primarily with the provision of postpartum care, rather than overall *health* of families, their involvement with clients is of relatively short duration. To a large extent, the tendency to disengage from families as soon as immediate postpartum needs have been met is dictated by program protocol and workload pressures.

> That [10 to 14 days] is the usual termination of the nurse-client relationship, because that has been devised in the program - boom - we send out the package and that's it, but at that call I tend to encourage them to call after

that, opening doors to the clinic.

One of the nurses in the "McGill group" expressed frustration about the fact that a specified number of client contacts were expected to be completed within a certain time period, restricting the amount of time that could be invested in conducting holistic client and family assessments.

Although all of the nurses seemed to have considered clients' bio-psycho-social situation, there was evidence that intuition or observation, rather than active client involvement, sometimes played a role in assessment. For example, commitment to breast feeding was questioned, but appeared not to have been openly discussed with the client in at least three instances, involving different nurses. In other instances, problems were identified, but nurses seemed reluctant to offer specific interventions, perhaps because they did not see it as their role.

> She felt she should be breast feeding. She maybe felt that in her head, that maybe that was the sensible thing to do, but she was so tired that I think sometimes it was easier for her to give the baby a bottle . . . I had a nurse going in because I was worried about her health . . . We got [community resource] to go in, but she didn't want them at all. . . . It concerned me that she didn't call us, didn't want us. We had a sense it was because she was coping O.K.
>
> She'd probably say something to the effect that I assisted her with breast feeding, assisted her with some child care issues. She might throw in that I was interested in her and listened. I did mention some resources, but time will tell. . . . She's going through the problem-solving process herself, and she's aware of the resources. How she plans to utilize them in the long run is her choice.

Since nurse-client interactions are problem focussed rather than truly client centred, planning for ongoing involvement, beyond what is prescribed by protocol, is contingent on the presence of physiological concerns, and the client's perceived or expressed level of confidence with managing on her own. When nurses get the sense they are no longer needed, the relationship is terminated, although clients are encouraged to call or drop into clinic at any time if concerns arise. The majority of nursing interventions consist of giving information and breast feeding support, building mothers' skills and confidence in child care, and "being there" for the client when needed. This approach to intervention is in sharp contrast to that reflected in the McGill Model of Nursing, where immediate concerns are seen merely as a focal point around which to engage clients in learning problem-solving techniques that empower them to deal effectively with other situations related to coping with events of daily life. Health promoting nursing interventions should add a dimension to health care that goes beyond the mere provision of information and support in response to health care problems that are narrowly defined within a bio-medical model of service delivery (Allen, 1997).

Outcomes

Nurses expressed satisfaction with the outcome of interactions if they perceived that the client had gained some knowledge, was coping well with child care and breast feeding, and felt comfortable contacting the health centre for help as needed ("She's nursing her baby, and I think she's really pleased about that. She's getting a lot of positive encouragement from us, and I think she'll manage well. We didn't have to call her, she called us. I think she would probably tell you that she's a pretty good mom . . . I don't know that we taught her a whole lot other than to trust herself, and to value herself"). Providing there were no major concerns, nurses usually left it up to clients to initiate contact with them if further assistance was required ("If everything has gone well on the three basic contacts that we do, we disengage by telling the mom that she can call us if she has any further concerns or wishes to have any further information"). Formal evaluation of outcomes was seldom conducted, and in some cases nurses could not easily articulate what they felt had been achieved with particular clients.

Clients generally expressed a high degree of satisfaction with the services provided, and almost always noted that the greatest benefit of the program was the sense of security they gained from having ready access to a professional, knowledgeable, and supportive source of help.

> This is such an overwhelming period. It's hard to explain unless you're a new mom yourself, but just to have somebody come in and say "OK. Your baby looks just fine. She's looking healthy. This is our number, please call it." Just reminding you that somebody's there to help.

Increased perceptions of confidence in ability to effectively care for the newborn infant were frequently noted. None of the clients reported any change in family functioning as a consequence of the program, nor was there any mention that "life skills" had been learned, other than those directly related to the physical care of infants. From the data, the researcher could find no evidence of outcomes such as development of problem-solving skills that were transferable to other life situations, or of progress toward attaining long term goals related to healthy family development, which should have been described by clients had practice been consistent with primary health care principles.

Conclusion

The findings from this small study suggest that public health nurses do not practise from an explicit theoretical perspective, nor is their practice when interacting with individual clients in the postpartum program consistent with generally accepted health promotion standards (Hughes, 1995; Stewart & Langille, 1995). This research supports findings from other studies that have demonstrated incongruence between the ideal of health promoting practice and its implementation by nurses (Benson & Latter, 1998; Kendall, 1993; Lauri, 1994).

The McGill Model of Nursing was used as the conceptual nursing framework to underpin the development of program theory in this research for two reasons. First, a conceptual practice model provides the framework for assessment of the effectiveness of nursing programs, by making explicit the interaction among structural elements (e.g. nurses' skill base), the process of care (e.g. enhancing problem solving) and intended outcomes (e.g. goal attainment). Second, the McGill Model evolved from concern about the predominance of the "medical model" in health care delivery (Allen, 1982), and positions nursing within a health care environment in which individuals and families are encouraged to "assume greater responsibility for their health, and become increasingly involved in healthier lifestyles" (Gottlieb & Rowatt, 1987, p. 52). It is therefore eminently consistent with currently held conceptions of the role of public health nurses in today's climate of health care reform (Cradduck, 1995; Rodger & Gallagher, 1995).

There certainly were many elements of public health nurses' practice that were congruent with the McGill Model. Nurses focussed on helping clients develop problem-solving strategies that increased their confidence as parents and their feelings of self-sufficiency in managing postpartum issues, they often sought input from clients in identifying areas of concern, carefully assessed clients' coping ability, listened attentively to questions, provided reassurance and validation of parental competence, gave relevant information and instruction, and offered a great deal of support (Frasure-Smith, Allen, & Gottlieb, 1980/1997).

What was not evident in this research was the expected focus on assessment of broad health related needs of individuals and families. Had a more "positive" view of health guided interactions with clients, the "expert" role would have been de-emphasized, clients would have been more meaningfully involved in identifying challenges faced in adjusting to life situations (as appropriate), and a stronger goal orientation would have directed nursing actions and evaluation of outcomes in each particular instance of care. Instead, the focus of interactions was more narrowly defined by the presence or absence of immediate postpartum problems, and the duration of involvement with families was limited to managing those concerns. The "negative" definition of health is reinforced in assessment tools and practice guidelines that place emphasis on early detection of physical and psychological aberrations associated with the postpartum period. It is also reflected in the expectations (of clients and program personnel) that nurses demonstrate a high degree of technical skill in managing infant feeding and other postpartum needs. Since the program structure is so heavily steeped in the bio-medical model, there are few rewards for adopting a health promoting style of practice. Indeed at this point in time, there would likely be admonishments from colleagues and managers if a more holistic and comprehensive approach was taken to meeting the needs of families in transition, particularly if the frequency and duration of contacts increased as a consequence.

Funding constraints in recent years have contributed to public health nurses feeling that there is simply insufficient manpower to provide the type of nursing care that might be desirable, but is no longer possible ("it's partly a manpower situation . . . we used to, years ago, we would follow mothers more closely than we do now"). Given the serious reductions in health care funding that accompanied the call for health care reform, providers have had little opportunity to invest time and resources in implementing the new approaches to practice that will be required to transform the system from a traditional model of health service delivery to one that is more in keeping with a primary health care framework. To be successful, the major changes that are called for in health care must be underpinned by re-education and/or re-orientation of the workforce, if service providers are to realign their practice with currently professed expectations (International Council of Nurses, 1996).There is, however, little evidence to suggest that health care practitioners (including formal and informal care givers) have been adequately prepared to assume roles that are consistent with the philosophy and objectives inherent in the primary health care approach to service delivery (Pong, Saunders, Church, Wanke, & Cappon, 1995).The challenge of shifting resources from the major curative institutions to community based health services remains, and despite the apparent de-emphasis of the curative model in theory, current work environments cannot, and do not explicitly support the health promoting role of public health nurses or other health care providers.

By using program theory and a comprehensive framework incorporating structure, process and outcome dimensions as a template to guide data collection and analysis in this research, it was possible to demonstrate that program structure is a major deterrent to nurses adopting a style of practice that is congruent with the health promoting role advocated by their professional organisations (Canadian Nurses Association, 1992; International Council of Nurses, 1996). For example, several clients commented that they would have preferred more interaction with nurses over a longer duration. Nurses, however, felt that program protocols (e.g. termination of contact at about two weeks), management expectations and workload pressures made it difficult for them to have much flexibility in deciding the optimal duration and frequency of contacts, once immediate physiological problems had been resolved. Without the benefit of the normative theory as a screen against which to judge the effectiveness of nursing practice, the data would likely have been interpreted very differently. Both nurses and clients appeared largely satisfied with program processes and outcomes. Nurses' actions were purposefully selected to build knowledge, increase parental confidence and provide support to mothers, and those were the major effects that clients reported from participation in the program. It can therefore be said that nurses were effective in achieving their intended outcomes. When judged against the primary health care standard of health promoting practice, however, the Postpartum Program could not be said to be entirely effective. The results of this study would suggest that at present, the potential role of public health nurses in meeting the challenge of health care restructuring is de-emphasised in the Postpartum Program.

Implications for Nursing Practice

In recent years, there has been increasing demand in nursing and other health care fields to demonstrate that interactions with clients are purposeful, and of demonstrable benefit to them. In order to provide evidence that interventions are successful in achieving their intended aims, it is necessary to ground them in a theoretical framework that makes explicit why specific decisions are made in particular situations. The goal of health promotion is different than the goal of traditional preventive medical approaches, and hence the outcomes of health promoting practice should be measured using indicators that are appropriate to that role (Macdonald, Veen, & Tones, 1996).

The promotion of health has long been considered the purview of nursing, and within the current health care reform environment, public health nurses have been challenged to reorient their practice to be consistent with primary health care philosophy and principles (Clarke, 1995). The primary health care approach demands that more effort be made by nurses to empower clients to assume control over personal, social, and political determinants of health. Nursing has a key role to play in developing new approaches to improving population health, approaches that recognize the essential role of clients as active participants, and which emphasize the positive view of health. If public health nurses are to respond to the challenge of demonstrating that their practice makes a viable difference to the health of individuals and populations, they will need to be guided by appropriate conceptual models that align their practice with that purpose. To accomplish that, program design and management expectations will also need to be revised, since practice is to a large extent directly influenced by program structure. At the very least, the nursing skills required to engage individuals and families meaningfully in goal setting and development of problem solving strategies will need to be as highly valued and nurtured by program planners and managers as is clinical expertise.

Although conceptual frameworks such as the McGill Model of Nursing provide a context within which to make explicit the generic nursing process (Fawcett, 1992), each component of the model (e.g. goals of practice, legitimate recipient of nursing care, content of nursing process) must be carefully understood in relation to its philosophical implications if the model is to serve as a useful guide for practice. For example, self-efficacy is a core value within the McGill Model, and provides the theoretical link among structural concepts (e.g. nurse and family as *collaborators* in planning for health), primary nursing processes (e.g. *structuring an environment for learning*), and intended outcomes (e.g. family *coping and goal attainment*). Unless the theoretical linkages among the various elements of the model are made explicit, there is a risk that practitioners will fail to recognise the specific mechanism by which intended effects are to be attained. In other words, if the "causal" linkages among specific elements are not consciously disentangled from the "black box" of the conceptual model as a nursing intervention, it may be difficult for nurses to translate knowledge about the model (i.e. espoused theory) to theory in use (Patton, 1990).

References

Alberta Health. (1998). Ministry of Health Business Plan, 1998-1999 to 2000-2001. Edmonton, AB: Author

Allen, M. (1982). A model of nursing: A plan for research and development. In Research. A base for the future. Proceedings of the fifth International Conference on Nursing Research. Edinburgh: University of Edinburgh.

Allen, M. (1997). Comparative theories of the expanded role in nursing and implications for nursing practice: A working paper. In L. N. Gottlieb, & H. Ezer (Eds.), Perspective on health, family, learning, & collaborative nursing: A collection of writings on the McGill Model of Nursing (Pre-publication ed., pp. 10-15). Montreal, QC: McGill University School of Nursing. (Original work published 1977)

Allen, M. (1997). The health dimension in nursing practice: Notes on nursing in primary health care. In L. N. Gottlieb, & H. Ezer (Eds.), Perspective on health, family, learning, & collaborative nursing: A collection of writings on the McGill Model of Nursing (Pre-publication ed., pp. 161-163). Montreal, QC: McGill School of Nursing. (Original work published 1981)

Allen, M. (1997). Primary care nursing: Research in action. In L. N. Gottlieb, & H. Ezer (Eds.), Perspective on health, family, learning, & collaborative nursing: A collection of writings on the McGill Model of Nursing (Pre-publication ed., pp. 164-190). Montreal, QC: McGill University School of Nursing.

Benson, A., & Latter, S. (1998). Implementing health promoting nursing: The integration of interpersonal skills and health promotion. Journal of Advanced Nursing, 27, 100-107.

Canadian Nurses Association. (1988). Health for all Canadians: A call for health care reform. Ottawa, ON: Author.

Canadian Nurses Association. (1992, March). Health Promotion. Position Statement. Ottawa, ON: Author.

Canadian Public Health Association. (1990). Community health ~ public health nursing in Canada. Ottawa, ON: Author.

Capital Health Authority. (1996). Healthy Beginnings Postpartum nursing manual. Edmonton, AB: Public Health Services, Community Health Promotion and Prevention Services.

Chalmers, K. I., & Gregory, D. M. (1995). Community health nursing research: Theoretical and practical challenges. In M. J. Stewart (Ed.), Community nursing: Promoting Canadians' health (pp. 600-617). Toronto, ON: W. B. Saunders Canada.

Clarke, H. F. (1995). Research-based practice in community health nursing. In M. J. Stewart (Ed.), Community nursing: Promoting Canadians' health (pp. 577-599). Toronto: W. B. Saunders Canada.

Cradduck, G. R. (1995). Primary health care practice. In M. J. Stewart (Ed.), Community nursing: Promoting Canadians' health (pp. 454-474). Toronto, ON: W. B. Saunders Canada.

Fawcett, J. (1992). Conceptual models and nursing practice: The reciprocal relationship. Journal of Advanced Nursing, 17, 224-228.

Frasure-Smith, N., Allen, M., Gottlieb, L. (1997). Models of nursing practice in a changing health care system: Overview of a comparative study in three ambulatory care settings. In L. N. Gottlieb & H. Ezer (Eds.), Perspective on health, family, learning, & collaborative nursing: A collection of writings on the McGill Model of Nursing (Pre-publication ed., pp. 32-55). Montreal, QC: McGill University School of Nursing. (Original work published 1980)

Gilchrist, J. M. (1997a). The nature of nursing in the health care structure. In L. N. Gottlieb & H. Ezer (Eds.), Perspective on health, family, learning, & collaborative nursing: A collection of writings on the McGill Model of Nursing (Pre-publication ed., pp. 2-9). Montreal, QC: McGill University School of Nursing. (Original work published 1973)

Gilchrist, J. M. (1997b). The roles and functions of nursing. In L. N. Gottlieb & H. Ezer (Eds.), Perspective on health, family, learning, & collaborative nursing: A collection of writings on the McGill Model of Nursing (Pre-publication ed., pp. 192-196). Montreal, QC: McGill University School of Nursing. (Original work published 1973)

Gillis, A. J. (1994). Determinants of health-promoting lifestyles in adolescent females. Canadian Journal of Nursing Research, 26(2), 13-28.

Gottlieb, L. (1997). Health promoters: Two contrasting styles in community nursing. In L. N. Gottlieb & H. Ezer (Eds.), Perspective on health, family, learning, & collaborative nursing: A collection of writings on the McGill Model of Nursing (Pre-publication ed., pp. 98-112). Montreal, QC: McGill University School of Nursing. (Original work published 1982)

Gottlieb, L., & Allen, M. (1997). Developing a classification system to examine a model of nursing in primary care settings. Part II: The classification system. In L. Gottlieb & H. Ezer (Eds.), Perspective on health, family, learning, & collaborative nursing: A collection of writings on the McGill Model of Nursing (Pre-publication ed., pp. 18-31). Montreal, QC: McGill University School of Nursing. (Original work published 1979)

Gottlieb, L., & Rowat, K. (1987). The McGill Model of Nursing: A practice-derived model. Advances in Nursing Science, 9(4), 51-61.

Hagan, L., O'Neill, M., & Dallaire, C. (1995). Linking health promotion and community health nursing: Conceptual and practical issues. In M. J. Stewart (Ed.), Community nursing: Promoting Canadians' health (pp. 413-429). Toronto, ON: W. B. Saunders Canada.

Hartrick, G., Lindsey, E. A., & Hills, M. (1994). Family nursing assessment: meeting the challenge of health promotion. Journal of Advanced Nursing, 20, 85-91.

Hinshaw, A. S. (1992). Welcome. Patient outcomes research conference. In Patient outcomes research: Examining the effectiveness of nursing practice. Proceedings of the State of the Science Conference sponsored by the National Center for Nursing Research (pp. 9-10). Bethesda, MD: Public Health Service, National Institute of Health.

Hughes, J. R. (1995). Effects of health care reform on helping relationships. In M. J. Stewart (Ed.), Community nursing: Promoting Canadians' health (pp. 532-555). Toronto, ON: W. B. Saunders Canada.

International Council of Nurses. (1996). The value of nursing in a changing world. Geneva: Author.

Jennings, B. M. (1991). Patient outcomes research: Seizing the opportunity. Advances in Nursing Science, 14(2), 59-72.

Kendall, S. (1993). Do health visitors promote client participation? An analysis of the health visitor-client interaction. Journal of Clinical Nursing, 2, 103-109.

Kirkhart, K. E., & Ruffolo, M. C. (1993). Value bases of case management evaluation. Evaluation and Program Planning, 16, 55-65.

Labonte, R. (1994).Health promotion and empowerment: Reflections on professional practice. Health Education Quarterly, 21(2), 253-268.

Lauri, S. (1994). Health promotion in child and family health care: The role of Finnish public health nurses. Public Health Nursing, 11(1), 32-37.

Macdonald, G., Veen, C., & Tones, K. (1996). Evidence for success in health promotion: Suggestions for improvement. Health Education Research, 11(3), 367-376.

Macleod Clark, J., Franks, H., Maben, J., & Latter, S. (1997). The Developing Quality Indicators Project. Health Promotion in Primary Health Care Nursing. Phase 2: Final Report. London, UK: Health Education Authority.

Miles, M. B., & Huberman, A. M. (1994). Qualitative data analysis: An expanded sourcebook (2nd ed.). Thousand Oaks, CA: Sage.

Mitchell, P. H., Ferketich, S., & Jennings, B. M. (1998). Quality health outcomes model. Image: Journal of Nursing Scholarship, 30(1), 43-52.

Neufeld, A., & Harrison, M. J. (1995). Nursing diagnosis for aggregates and groups. In M. J. Stewart (Ed.), Community nursing: Promoting Canadians' health (pp. 475-492). Toronto, ON: W. B. Saunders Canada.

Patton, M. Q. (1990). Qualitative evaluation and research methods (2nd ed.). Newbury Park: Sage.

Plough, A., & Olafson, F. (1994). Implementing the Boston Healthy Start initiative. A case study of community empowerment and public health. Health Education Quarterly, 21(2), 221-234.

Pong, R. W., Saunders, D., Church, J., Wanke, M., & Cappon, P. (1995). Component 1: Health human resources in community-based health care: A review of the literature. Building a stronger foundation: A framework for planning and evaluating community-based health services in Canada. A report prepared for the federal, provincial and territorial deputy ministers of health. Ottawa, ON: Health Canada, Health Promotion and Programs Branch.

Purkis, M. E. (1997). The "social determinants" of practice? A critical analysis of the discourse of health promotion. Canadian Journal of Nursing Research, 29(1), 47-62.

Qualitative Solutions and Research. (1996). User's guide for QSR NUD*IST (3.0.4 for PC/Windows). Thousand Oaks, CA: Scolari.

Rodger, G. L., & Gallagher, S. M. (1995). The move toward Primary Health Care in Canada: Community health nursing from 1985 to 1995. In M. J. Stewart (Ed.), Community nursing: Promoting Canadians' health (pp. 37-58). Toronto, ON : W. B. Saunders Canada.

Schumacher, K. L., & Meleis, A. I. (1994). Transitions: A central concept in nursing. Image: Journal of Nursing Scholarship, 26(2), 119-127.

Shannon, V. (1997). Creating a structure to support the McGill model. In L. N. Gottlieb & H. Ezer (Eds.), Perspective on health, family, learning, & collaborative nursing: A collection of writings on the McGill Model of Nursing (Pre-publication ed., pp. 308-311). Montreal, QC: McGill University School of Nursing. (Original work published 1985)

Sidani, S., & Braden, C. J. (1998). Evaluating nursing interventions. A theory-driven approach. Thousand Oaks, CA: Sage.

Stewart, M. J. (Ed.). (1995). Community health nursing in the future. In Community nursing: Promoting Canadians' health (pp. 762-788). Toronto, ON: W. B. Saunders Canada.

Stewart, M. J., & Langille, L. L. (1995). Primary health care principles: Core of community health nursing. In M. J. Stewart (Ed.), Community nursing: Promoting Canadians' health (pp. 62-88). Toronto, ON: W. B. Saunders Canada .

Tanaka Collins, W. (1995). The experience of early discharge: A maternal perspective. Unpublished master's thesis. University of Alberta, Edmonton, Alberta, Canada.

Van Dover, L. J., & Mitchell-DiCenso, A. (1995). Prevention of adolescent pregnancy. In M. J. Stewart (Ed.), Community nursing: Promoting Canadians' health (pp. 335-361). Toronto, ON: W. B. Saunders Canada.

CHAPTER 4

The Reciprocal Effects of Client, Setting, and Nursing Actions on Client Outcomes

THE RECIPROCAL EFFECTS OF CLIENT, SETTING, AND NURSING ACTIONS ON CLIENT OUTCOMES

Introduction

Comprehensive frameworks incorporating the reciprocal effects of client and system characteristics on "treatment" selection and outcomes of nursing care are essential to the documentation of program effectiveness (Mitchell, Ferketich, & Jennings, 1998). What actions nurses perform and under what circumstances can only be adequately explained by reference to the background characteristics and life contexts of program participants, and system factors such as provider goals or theoretical orientation (Finney & Moos, 1989). Fundamental to the demonstration of effectiveness is the need to clearly associate outcomes with antecedent nursing interventions, and that requires *a priori* explication of intended outcomes, while also allowing the possibility that unexpected outcomes may occur, and should be documented (Bond &Thomas, 1991). There is to date relatively little research, in nursing or other health care fields, that has demonstrated causal relationships between provider actions and outcomes, and establishing those linkages is a major priority in measuring the effectiveness of nursing practice (Griffiths, 1995; Strickland, 1997).

In this paper, selected findings are presented from a qualitative study in which an integrated model was used to combine structural, process, and outcome components of a community-based postpartum program, in an attempt to capture the complex reality of public health nursing practice. When interventions are complex, administered over multiple occasions, and vary from case to case, as is typical of much public health nursing practice, a substantial amount of information must be provided to establish that "treatments" as delivered in fact account for variations in outcomes. An attempt was made in this study to understand elements of the nursing interventions, the conditions under which they were delivered, and the setting in which interactions occurred with clients.

Clients' perspectives were incorporated into the study design, to examine the acceptability of program outcomes as indicators of the quality and appropriateness of the services provided (Jennings, 1991; Macleod Clark, Franks, Maben, & Latter, 1997). Biographical client data were also collected and used during analysis. In keeping with current recommendations for conducting effectiveness research, a theory-driven approach was employed (Bickman, 1987; Chen, 1990; Lipsey, Crosse, Dunkle, Pollard, & Stobart, 1985). This method is characterized by use of a conceptual model to make explicit the processes presumed to be involved in the chain between actions and their effects. As discussed in the previous chapter, nursing practice in the postpartum program was found to be incongruent with the theoretical model that had been formulated for this research. In this paper, a description of the many factors which influence program effects is provided.

Methods

The setting for the study was a large urban community in western Canada. Six experienced public health nurses prepared at the baccalaureate level, and 25 clients of a community based postpartum program were recruited through convenience sampling. The Postpartum Program is one of several programs delivered by staff employed within the Public Health Division of the health authority. It offers home based services to women discharged from hospital within 24 to 36 hours of a normal vaginal delivery. The goal of the program is "to enhance, maintain, and restore the health and well-being of mothers and newborns within the context of family and community . . . by providing a cost-effective and safe alternative to hospital care, and an opportunity for women to participate [sic] and determine their own health care" (Capital Health Authority, 1996, p. 7). Performance measures (indicators of success) include customer satisfaction and health outcomes (maximum breast feeding duration, and reduced hospital re-admission rates). Program documents make no reference to what is ideal breast feeding duration, nor is there any indication of specific targets in terms of reducing re-admission to hospital for mother or baby.

The program operates Monday through Friday out of nine Health Centres located throughout the geographic boundaries of the Regional Health Authority. On week-ends, services are provided from only six of the nine health centres, and the program is staffed by casual and/or part-time employees. Services are "driven by client need" (p. 8) but incorporate at a minimum a telephone contact with families on the day of hospital discharge (and as necessary beyond that time), a home visit on the day following discharge, repeated as often as is judged appropriate by the nurse and/or client, and access to a "Hotline" staffed by a public health nurse with additional preparation in obstetrics and lactation consulting (available seven days per week, from 0830 to 2200 hours). The program protocol incorporates additional telephone calls made by public health nurses at about three to five days, and again at approximately two weeks following delivery, at which time regular contact with the client is terminated if no problems requiring continued nursing assistance have been identified (Capital Health Authority, 1996).

To assess the effect of practising from an explicit theoretical nursing perspective, three of the nurses enrolled in the study received instruction in the McGill Model of Nursing, a conceptual framework that is grounded in primary health care philosophy and whose structure and substance are congruent with currently accepted conceptualisations of the health promoting role of community health nurses in Canada (Stewart, 1995). It was found during the early phase of data analysis that the orientation provided to the nursing model had been insufficient to transform the practice of nurses to any significant extent. Therefore, subsequent data analysis examined the practice of all six nurses combined into one group, and a comparison was made of "actual" practice relative to a theoretical (i.e. "ideal") model of practice.

Data were collected over a ten month period through face to face interviews with nurses and clients. Nurses were interviewed as soon as possible after they had "closed the file" on the client. Clients were interviewed within the first two weeks of discharge from hospital, at about two months, and again through a telephone interview at about six months.

The potential influence on program processes and outcomes of client factors such as age, income, perceived social support, and coping ability were captured during the first interview, using a coded form, from which data were subsequently entered into SPSS 6.1 for Windows. Selected components (e.g. home or clinic visit) and strength (i.e. frequency and duration of contact) of interactions were documented using a computerized agency form used by providers specifically for that purpose. Small notebooks were provided to clients by the researcher during the initial interview conducted in the client's home. Clients were asked to record the date, purpose, and duration of subsequent telephone calls made to a public health nurse or to the after hours Hotline. Clients were also asked to document any clinic visits made to the health centre before the infant reached two months of age, the time at which the program "officially" terminates.

Taped interviews were transcribed verbatim, and analysed with the help of a software computer package (NUD*IST) designed for qualitative data storage and indexing (Qualitative Solutions and Research, 1996). Content analysis was used to affix codes and identify sub-themes in the data. The purpose in this research project was to examine the relationships that exist among client and provider factors, organisational characteristics, nurse and client actions, and outcomes in the program. Consequently, the first level of analysis segmented interview data into these broad pre-determined categories.

The findings of the study are now presented, organised around factors that can potentially influence program outcomes, such as client and setting characteristics, and issues related to intervention strength, duration or intensity. This conceptual model represents a comprehensive approach to effectiveness research, since it enhances the likelihood of developing clinically relevant knowledge to guide practice (Sidani & Braden, 1998).

Findings

There was considerable evidence of congruence between provider and client notions of program effects in this study, although specified outcomes were not necessarily those currently used as performance indicators for the program. It is noteworthy that nurses often had difficulty describing the decision process they used in determining what actions to take in particular client situations. This suggests that nursing interventions are not tied to any explicit conceptual model that is operational in practice (Grossman-Schulz & Feeley, 1984/1997). It also reinforces the researcher's belief that nurses are problem focussed rather than being truly client centred, which contributes to somewhat routinized responses to identified problems (e.g. if the problem is perceived as lack of knowledge, information is given, and there is little need for in depth analysis of the situation).

The "presenting problem" which created the stimulus for initial in-home nursing care (the intervention) in this study was women and their newborns, discharged from hospital within 12 to 36 hours of normal delivery. Variability in strength, duration, and frequency of intervention components (e.g. health education, anticipatory guidance, breast feeding support) should therefore in part reflect individual differences in client characteristics and health care needs among new mothers and their babies.

Client Characteristics

Fourteen (56%) of 25 client participants in this study were first time mothers, whose ages ranged from 17 to 35 years. Nine of the primiparous women were married or in common-law relationships (ages 19 to 35, mean 26), and of five who were single, four were 19 years of age or less. Three of the four teenage mothers had been involved with the baby's father at the time of hospital discharge, but were no longer in that relationship when interviewed for the second time at two months. The other had been in an "on-off and on again" relationship. Financial stability was a major concern for all teenage mothers, two of whom were on social assistance, while the other two were receiving limited financial support from a parent or boyfriend. About one-third (32%) of the clients had family incomes below $20,000 and almost as many (28%) had incomes over $50,000 annually. Two women had C-sections, and were discharged 72 hours or more after delivery. Only four clients (16%) stated they would have preferred a longer stay in hospital. Of eight study participants (32%) who had attended prenatal classes, six were first time mothers. All 25 clients were breast feeding at the time of hospital discharge.

Estimated Direct Hours of Care

The estimated direct hours of nursing care documented in the client sample ranged from one to 5.9 hours (mean 4), which included both nurse and client initiated home visits and telephone consultations, as well as calls made to the postpartum Hotline and drop in visits to the health centre. Twelve of the clients (48%), of whom six were first time mothers, received only one home visit, eight (32%) received two, three (12%) had three home visits, and two clients (8%), both teen moms, were visited on four occasions (the other two teen moms received one and two home visits, respectively). Of the clients who received three home visits, two had babies who developed jaundice requiring monitoring of bilirubin levels, and the other encountered breastfeeding difficulties which compromised infant hydration. Breast feeding problems (e.g. latch, positioning, cracked nipples) were the usual concerns of mothers who required two home visits. The length of time from intake (on the day of discharge) to termination of contact with clients varied from 3 to 60 days (mean 22.5 days), but no regular pattern or "cause" was noted between length of stay on the nurse's caseload, and particular client characteristics or health concerns.

The Hotline was accessed at least once (range 1 to 5) by all but eight (68%) clients. The number of telephone consultations with a public health nurse ranged from one to 13 (mean 5.1). Only nine of 22 clients who maintained a record of their visits to the health centre during the first two months after birth had used clinic services on at least one occasion (range 1 to 8).

It had been assumed by the researcher that demographic factors such as maternal age, marital status, or parity would correlate to some extent with client need, and would therefore "explain" variation in documented hours of care or length of stay on nurses' caseloads. For example, it was expected that teenage mothers would receive more home visiting, continued over a longer period of time, to help them learn to successfully manage the challenges related to premature parenting. That assumption was not borne out in this research, for a variety of reasons described in the following sections, which demonstrate that no clear linear relationship exists among client needs, nursing actions, and outcomes.

Client Needs

The expressed postpartum concerns of clients were surprisingly very similar, regardless of socio-economic status, maternal age or parity. In essence, clients wanted to have a happy and healthy baby, and to be healthy themselves. None felt that the nurse had a role to play in promoting "happiness," but clients counted on the public health nurse and others to help them maintain their own and their baby's health.

Mothers were concerned about their physiological recovery and were conscious of the need to attend to their emotional well-being. Several multiparous women focussed on the desire to integrate the new baby into the family, and to help an older child adjust to the fact that "there's another person now, and [he/she] has to get used to that." Without exception, clients noted that the home visit made by the public health nurse on the day following hospital discharge was essential to their sense of well-being. Clients needed the reassurance of knowing that the baby had been thoroughly examined by a competent professional, "to make sure everything is O. K." Mothers who were breast feeding were concerned about "doing it right," and needed to know how to ensure the baby was "getting enough to eat." The majority of women also wanted their own physiological healing to be assessed by the public health nurse, since "your body's gone through so much change, anything's possible." Because there were many concerns about the possibility that "anything could go wrong" with either the baby or mother within the first few days after discharge, clients also needed to know that help was available "here, and in the blink of an eye" should that be required.

Nurses were very attuned to the fact that "moms have lots of physical needs, baby care issues . . . they identify them, they need to have them addressed." They were oriented to "helping mothers become knowledgeable and confident about child care, being there as a support for the mom," helping with the establishment of successful breast feeding, and ensuring that mothers had access to the resources needed to promote physical and emotional well-being. Their goal was essentially to

> make mothers feel comfortable going home early from the hospital, to know that they aren't alone when they get home, that they can call on the nurses to either visit them or call . . . and really feel connected . . . a connection that's not abrupt or scary in any way to the new moms leaving the hospital with their babies.

Beyond "routine" nurse-client contacts which occur according to agency protocol (i.e. a home visit within 24 hours, and two additional phone calls - at 3 to 5 days, and again at 10 to 14 days), a variety of client and system characteristics accounted for the frequency, duration, and type of additional contacts initiated either by nurses or clients.

The Role of Client

Nurse-initiated contacts.

Decisions regarding appropriate interventions with specific clients were made by public health nurses on the basis of needs assessed during the initial home visit. In keeping with agency guidelines and practices, a thorough physical assessment of the baby is conducted, the mother's physiological status is ascertained through physical examination (with the mother's consent), and availability of support to assist with household tasks and care of other children is determined. The family's home environment (e.g. safety hazards such as the infant's crib), their social situation, and coping skills are also evaluated, and specific concerns are elicited through discussion and questioning. It is nonetheless noteworthy that the amount of time devoted to the first visit ranged from 30 minutes to two hours (mean 80 minutes) among married primiparous women, from 45 minutes to two hours (mean 95 minutes) among single women, and from 45 minutes to 1.9 hours (mean 85 minutes) among multiparous women.

Physiological concerns such as infant jaundice or feeding problems interfering with adequate hydration commonly led to additional nurse initiated follow-up. The decision whether to make a home visit or follow-up with telephone calls subsequent to the initial home visit was based on the nurse's assessment of the mother's competence and/or comfort with monitoring the infant's progress, on the likelihood that she would call if the condition worsened, and on the perceived severity of the problem.

> If I have a sense that the baby is dehydrated or losing weight, I will go into the home once, maybe twice a day because it worries you, you know. I don't want to go home worrying about that baby, so we really keep close contact with the family . . . you just worry about that.

Problems with positioning or latch during breast feeding, cracked and sore nipples, or perceived maternal anxiety with child care or breast feeding almost always led to additional follow-up, but the type of contact (home visit or phone call) was generally left up to the mother. "She called me to ask about me and my baby, and she asked me if I wanted her to come and I said yes, I wanted her to come. She came." Nurses were generally reluctant to impose home visiting on clients, for fear of "interfering, or undermining the mother's confidence." As a consequence, they tended to "work out with clients what the contract will be," ensured that clients knew the "nurse was available if she needed us," and assumed that clients would then call if help was needed. In some circumstances, and often with teen moms, this resulted in less home visiting than the public health nurse felt was desirable. "I feel frustrated. I feel my hands are tied because I can't force myself into her home. I can't force her to let anybody in, all these other people that I think would be helpful to her." In these situations, nurses had nonetheless assured themselves that the baby was safe, and particularly if some family support was available, felt more confident that the mother would manage, and would call if she needed assistance.

> She has a mother who is quite supportive, so many things were going well. The jaundice had gone. The baby was breast feeding well, and she seemed really relaxed with the baby. It just seemed so natural for her, so I felt really good about that. And I just kept phoning her . . . and seeing that she was doing fine.

When there were no physiological concerns with the baby, and the mother's emotional well-being and support system were judged adequate, clients were encouraged to call or drop in to the health centre if questions arose, but otherwise received no further follow-up than that prescribed by agency protocol (i.e. one home visit and two phone calls). This was the case for teenage or single mothers, as well as other primiparous and multiparous women.

On occasion, workload pressures and staffing schedules interfered with providing the level or consistency of service dictated by protocol (e.g. second phone call made at five versus two weeks), although nurses were unwavering in ensuring that priority physiological needs of infants or mothers were adequately met. Reduced staffing levels relative to workload demands nonetheless meant that more onus was placed on clients to contact the public health nurse if they ran into problems. "It's partly a manpower situation . . . years ago, we would follow mothers more closely than we do now. Now, we contract with them . . . and leave it up to them to call."

Nurses also noted that uneven workloads, clinic schedules (e.g. rotating out of the postpartum program to perform other clinic duties), and other agency demands (e.g. special immunisation clinics) sometimes prevented them from adequately addressing psychological needs, which were more time consuming and difficult to resolve due to a perceived lack of community resources and/or poor collaboration among various social agencies. Some concern was expressed about discontinuity of care occasioned by week-end coverage and casual program staff, which meant that "it's really quite difficult to ensure the clients they will be seen by the same nurse, or even the same two nurses. Sometimes they see four or five nurses . . . particularly if they're having breastfeeding problems or jaundice." Continuity is also broken when clients stay with family members for the first day or two following hospital discharge, then relocate to a different geographic location within the region, in which case they may be lost to follow-up. Thus, while most of the clients in this study received the care that nurses deemed sufficient, there were situations unrelated to assessed need, in which client preferences or setting characteristics accounted for the observed variability in the type or frequency of documented nurse-client contact.

Client-initiated contacts.

Since nurses rely heavily on clients to communicate with them should assistance be required, knowledge of the factors that enhance or decrease client propensity to initiate contact is important to understanding intervention strength in this program. In general, these can be classified according to 1) inherent client traits or preferences, 2) expectations about the program, 3) perceptions of the nurse's role, expertise and accessibility, and 4) professional and interpersonal attributes of public health nurses. The latter three factors are features of provider and setting characteristics.

Client traits and preferences.

Multiparous women in this study tended to feel more comfortable with early discharge, and therefore often reported less need for the postpartum program. "With the second, I'm more relaxed, knowing more, I wasn't as worried about being at home." Parity, however, did not consistently influence nursing resource use. In some cases, prior experience in caring for other children (siblings, nieces or nephews, children in day care) heightened mothers' confidence in their ability to care for their own infant, even among first time mothers. In other instances, knowledgeable and competent multiparous women were rendered helpless because the baby's behaviour was radically different from that of a previous child. "There was a lot of anxiety on my part, because he just wasn't waking up and that just wasn't part of anything I had thought about. It wasn't part of my experience. I needed help." Character traits such as self-assurance decrease reliance on the nurse."If you can't get through things in life by yourself . . . what really have you achieved in life?" . . . "I'm a pretty independent person, and I feel like I have it under control, so I don't feel I need the nurse. I would feel I was imposing, because things are going well for me, and like, I haven't had any postpartum depression."

Even when feelings of competence are low, initiating contact with the nurse may reflect particular character traits more than actual need.

> I think nothing of calling up and asking them questions.
>
> Well, when he was twitching I thought I should call the nurse, but well . . . I felt kind of stupid [so I didn't].
>
> I would ask people who are easier to ask, like closer by, instead of having to phone them.

In several instances, clients stated they had issues they would have gladly discussed with the nurse had she called or dropped by. "It would have been nice [if she had offered to come by]. Not that I had any serious problems, but it would have been nice to ask any questions I had . . . just little questions." It was evident that although nurses genuinely wanted to offer support to mothers, some clients did not perceive that they should request additional contacts unless they were quite concerned about the baby or themselves.

Support from persons other than the nurse may also have a direct influence on nursing resource use. In this study, a few clients were either health professionals themselves, were married to physicians, had nurses or physicians as friends or relatives, or had friends to whom they turned for advice about child care concerns. The decision to seek out the public health nurse for assistance, rather than another source of help, was based on such factors as *convenience* "She just happened to be coming that day, so it was good timing;" *sensitivity of the concern* "you could phone her, and the fact that it was confidential what goes on her records;" or *predisposition* "I have a very good friend who I know is available. I can call her if I have any trouble . . . but [phn] was there, and I felt very confident that she was doing what needed to be done and that everything was under control. . . . I wasn't phoning all over the place."

It was interesting that in some instances when nurses perceived they were not wanted or needed by the client, the timing of contacts, rather than self-sufficiency, was what led the client to decline a visit from the nurse or other support personnel.

> I thought they probably would have called more . . . the first week, it was like call, call, call . . . and after that not so much. When she was calling I was fine, and other times, when I was expecting a call, nobody called.
>
> The day she came [support worker], I had a friend, two friends here, and my sister . . . the house was full, and I was like, I'm sorry for making you waste your time, but I can't do this today.

It was evident in several cases that more discussion between the nurse and client about mutual objectives in relation to postpartum follow up could have resulted in more contact, spaced over a longer period of time, resulting in greater mutual satisfaction with what was achieved. A few of the clients, and all of the teenage mothers, noted that at the time the nurse first visited, they "didn't know what [they] didn't know," and it would have been of benefit to have the nurse return for visits on a regular basis for the first month or longer. The fact that clients seldom called to request a visit, even though nurses had encouraged them to do so, reflects a general lack of understanding about the range of services available through the postpartum program.

The Role of Intervener and Setting Characteristics

Expectations about the program.

Very few of the clients in this study had any expectations about the program prior to the first contact with a public health nurse, and some remained quite vague about the full range of services that could be provided even after several contacts with the nurse. "I don't know the full extent of the program possibly . . . I don't understand the whole program." None of the clients were aware that the program could be "officially" accessed until the infant was two months of age. For most, the nurse was someone who was "there if needed . . . quick access, to make sure moms and babes are O. K. . . . with early discharge, you don't get the same care and attention [as in hospital], so many things can go wrong when you first get home." Clients generally assumed that the nurse "was not there for long," but only until she was assured of a safe postpartum recovery for mother and baby. Clients who had accessed agency services with an older child were aware that they could contact the health centre for help with any number of child care issues, but tended not to associate that service with the Postpartum Program.

There was also inconsistent understanding about the hours of operation of the Hotline. Several clients had called the "after hours" number during the night, had been referred to a source of help, and were reassured with the knowledge that "there is someone around 24 hours." Others were particularly anxious in the first few days after coming home because "the Hotline is not there all the time." Some had wanted to call the Hotline, but could not locate the number in the telephone directory. Another hesitated because she was not clear about who she was calling and was concerned about the possibility of "disturbing people during their evening off." Thus, the number of calls made to the Hotline are not necessarily indicative of client need. Rather, they may be a measure of what clients have been told, or have heard when services are described to them.

Perceptions of nurses' role, expertise and accessibility.

The factors which prompt clients to initiate contact with a public health nurse, rather than with other health professionals or informal sources of help, generally reflect perceptions about the staff's role and expertise in dealing with concerns of new mothers and their babies, and their accessibility. "They're in that business, and all the new ideas and stuff comes through their office. They've heard it all. They've seen it all, and they do some sifting for you." . . . "The public health nurses are more informative than your doctor, more up to date." It was evident in this study that clients who frequently utilized the services of public health nurses perceived them as not only competent, but also the most readily available professional to deal with their concerns.

> With the health centre, you get a faster response. They're accessible. There's always someone there to talk to . . . within a minute there was a nurse there . . . with the physician, you have to wait for him to call at the end of the day.
>
> I panicked one morning, because she couldn't see through one eye, and I didn't want to phone the doctor because I didn't know his phone number off hand.

Perhaps because they perceived that services were only offered in the short interval between hospital discharge and the last routine phone call made by the nurse, some clients who later ran into problems did not think of contacting the public health nurse for assistance. Although the single women had all expressed interest in breast feeding for at least the first three to four months, none was breast feeding when interviewed by the researcher at about two months postpartum. Some had developed infections (e.g. thrush, flu) and had temporarily discontinued breast feeding on the advice of a physician. They consequently "dried up" because they had not realized the importance of manually expressing breast milk in order to maintain lactation. Another was concerned that because she was not eating adequately, the baby would not "get all the nutrients she needed." The nurse was not contacted, because the client assumed she could not help "unless they were going to make me hungry, but I don't see how they could do that." Yet another teen mom needed someone to "state [to the court] the fact that I am taking care of my child the way a child should be taken care of." When asked why she had not called the public health nurse, who could have verified her capabilities as a mother, she replied "I didn't think about that actually, because [I thought] they just deal with the baby and health concerns and stuff like that."

There were a number of instances in this study in which the researcher or client identified issues that could or should have been addressed by the public health nurse, but of which the nurse was unaware. That these concerns were perhaps not adequately dealt with was a function of nurses' assumptions that clients would call if help was needed, of clients' narrow view of health, and of their mistaken belief that the purpose of the program was merely to ensure the safety of mothers and babies subsequent to early discharge from hospital. Concerns which arose after the last phone contact initiated by the nurse were often referred to physicians, were discussed with family or friends, or were resolved without consultation. "I had no money or anything [for formula], and I didn't know if the health centre would do anything, so I went to [other social agency] and they helped." Other clients continued to make frequent use of health unit services for an extended period of time. "We've used the health centre a lot. When he was just like a month old, two weeks old, she was calling just about every day. Please help us. What do we do? They were really helpful. I don't think we would have made it [without them]." It is likely that clarification of the role of public health nurses and of the range of services available from the health centre would lead to greater and more appropriate utilization of nursing resources by clients who could truly benefit from additional services.

Interpersonal attributes of nurses.

In addition to the client's own personality, the professional and interpersonal attributes of public health nurses are important determinants of client initiated contacts. A majority of clients described the nurse who visited them as supportive and comfortable to be with, and a few were adamant that they would have wanted no further interaction with her if that were not the case. "If you're not comfortable with that [nurse], you're not going to feel very comfortable in giving any sort of information . . . I think I might have held back on certain things."

Supportive interactions were described as those in which the clients's knowledge and skills were acknowledged (she didn't make me feel like a dope"), the nurse accurately interpreted the mother's concern ("she made sure I knew . . . she could sense I was nervous, and she helped that way"), and had a calm and relaxed manner ("she answered every question . . . I'm sure she took more time than she should have"). Also important was being non-directive, and conveying concern for the client: "I think the phone calls, and then coming out again. Just telling me that she would come any time I wanted her to come, and I didn't feel threatened by her. I didn't feel like she was telling me 'you're doing it wrong', just reassuring . . . saying this is just a suggestion."

For most clients, the fact that the nurse came to their home contributed greatly to the establishment of a comfortable relationship. "Having somebody come over helps a lot. I can't just call somebody and try to explain it." Clients often interpreted nurses' willingness to visit them at home as a sign of genuine caring. "I could talk to them easier when they were the ones that were coming to my home, instead of me going to the clinic.". . . "She made me feel like . . . I'm here because I care, not because I need to get paid." Other nurse gestures that conveyed caring included listening to the client's full question before answering, acknowledging other family members ("she was very good with my daughter too, and that made an impression on me"), and being "not just a nurse, but a person . . . friendly . . . like a best friend."

As has been described elsewhere (Macleod Clark et al., 1997) the more time nurses were able to spend with clients, the greater the likelihood that a trusting relationship would develop, and that the nurse would subsequently be accessed if needed. Several clients noted that part of their reluctance to call the nurse stemmed from unease about contacting someone whom they did not really know. "If I knew them personally, it would be easier to ask questions." When a number of nurses were involved in follow-up, or if the nurse appeared rushed during interactions, clients seemed less comfortable about initiating subsequent calls. "It was really quick when she came in. She just watched her latch on maybe once or twice, and that was it . . . so, there was a bit of reluctance with asking questions." Knowing, and being known by the nurse appeared to be a critical element in the establishment of an ongoing relationship for several, though not all clients.

Nursing Interventions

Different providers' approach during interactions not only influenced perceptions about the nurse-client relationship, but also led to variability in outcomes such as knowledge gain. In particular, the amount of unsolicited anticipatory guidance given as an intervention appeared to vary considerably among nurses in this study.

> There's a lot of things that as a first time mom, you don't know . . . just some of the little things that are going to come up pretty much with every baby would be helpful . . . like I was really unsure with the belly button, and using alcohol, there was lots of stuff.
>
> She went over what to expect for the next few days, his cord, how often he should be feeding.
>
> There could have been more information provided without me having to come up with questions. They assume you know a lot.

Some clients were prepared with a "list of questions" in anticipation of the nurse's visit, and needed no further information. Others were pleased that they got "more advice than expected . . . I'm not a quick thinker, and if there's a question that I'm thinking but I've totally forgotten about it, while I'm talking to her she'll bring it up, just out of the blue." Thus, the interactive effect of client needs and nurses' approach to interviewing and assessment appears to create variability in the amount of time allocated to the first home visit. That in turn may well influence the perceived quality of the nurse-client relationship, and determine the nature and frequency of future client initiated contacts.

Nurses' teaching styles also varied, which sometimes influenced the range of concerns addressed, and the amount of time invested in helping clients learn specific tasks. For example, in an effort to avoid being overly prescriptive one nurse might shy away from providing too much information, preferring instead to "affirm what the mother already knows." Some clients perceived that as validation of their competence, while for others it was an impediment to learning. "I asked her about how I should bathe her, and she said well, how would you bathe her? And I said, I'd put her in the tub and do this, and she goes 'Yeah, that's fine,' but I was really asking her to show me how. Maybe that's too basic for them to worry about." It was also apparent that a few nurses (two of six, both of whom were in the "McGill group") explored goals and expectations of care with clients, while others did not.

> I don't know her expectations . . . I don't think she had too many goals as far as me . . . or the program was concerned.
>
> Everything that she asked me, all the background information that she wanted, it gave her the knowledge of who I am, and therefore how to help me best . . . through the questioning, she got to know me, and exactly what I needed.

It is obviously important to discuss clients' hopes and expectations if interventions are to be tailored to their unique needs. Otherwise, care is merely routinized and particular interventions, such as teaching, may be unnecessary, have little or no impact, or may in fact be considered condescending (Kendall, 1993). To document provider effectiveness, it is essential that a clear linkage be established among client needs, nursing interventions, and outcomes.

Outcomes

Client outcomes refer to the results of interventions that have hopefully been selected with a particular purpose in mind. They are seldom attributable solely to the specific treatment or intervention that preceded them, however, but may be influenced by a host of factors related to the context in which care is delivered, including attributes of the provider and client characteristics (Chen, 1990; Sidani & Braden, 1998). This was evident in this research, and reemphasises the importance of attending to the complex array of factors that might act as intervening or confounding factors when designing outcome studies in public health nursing.

In this study, it was found that duration of breast feeding was in some instances predetermined by such factors as cultural predisposition or planned return to work, and not always amenable to nursing intervention. Maternal intentions formulated well before delivery influence duration, and several clients noted that they would have likely persisted, or did in fact continue with breast feeding, even when considerable difficulties were encountered. At least two thirds of the clients nonetheless noted that skill building and support received from nurses helped them overcome frustration or discomfort in the first few days, and for three or four women, that assistance was unquestionably linked with continued breast feeding. Once breast feeding was successfully initiated, however, nurses appeared to have little influence on breast feeding duration, possibly because they were no longer in contact with clients. It is noteworthy that although mother's commitment to breast feeding was questioned in at least three instances (among teenage moms), nurses did not maintain ongoing contact with clients once the "technical" problems had been resolved, despite the fact that maximum breast feeding duration is one of the program's performance measures. Although ongoing support may not have altered the outcome, there was some indication that many of the problems which contributed to early discontinuation of breast feeding could have been overcome had clients consulted with the public health nurse, but only one of them had done so. "Maybe if [phn] was . . . maybe if I had talked to her a few more times . . . maybe I should have called her."

The majority of clients in this study reported knowledge gain as an outcome of their interaction with nurses, although the amount of new information provided varied greatly. Not only was there significant variation in the nature and amount of anticipatory guidance provided by nurses, but there also appeared to be differences in the amount of teaching that was done during certain procedures such as infant physical assessment.

> She checked the baby, but I didn't feel I needed anything . . . she just pretty much examined the baby.
>
> She showed her professionalism, her expertise by talking as she was [examining the baby], why she was doing this, what was looking for, what that meant, and that kind of put you at ease . . . like, you know you're in good hands kind of thing.

In the rare instances when mothers reported dissatisfaction with any aspect of care, it was due to a mismatch between the informational needs of mothers and education provided by nurses. "The first day after you come home, you're pretty confident . . . well, I was anyway, because the nurse had already been there, and I thought I was doing all right, but it was just later on there were a lot of things I was unsure of."

Clients generally attributed their high degree of satisfaction with the program to increased parental confidence, gained as a consequence of having credible answers to their questions and being able to anticipate developmental changes in the baby. As mothers become more knowledgeable, "things ease up around the house, there is less tension." A non-directive approach to teaching, and lots of validation of mothers' skills and abilities were important to the development of confidence. Several clients noted that having easy access to a trusted "expert" whenever questions arose contributed to their feelings of confidence. Trust in the nurses' competence was related to mothers' perceptions that nurses had been observant, thorough, reassuring, "knowing what to do, what to say, how to react, and going to someone else if they don't." Being provided with sound rationale and having information that was consistent across providers were important to the development of trust and confidence in the information that was given.

Most clients also reported feelings of security and peace of mind subsequent to the initial home visit. Knowing about the Hotline and being made to feel comfortable about contacting the public health nurse if necessary were described as "having a cord, somebody on the other end that's going to help you" . . . "a light in the dark." Several clients commented that establishing good rapport with the nurse was essential to their sense of security.

> I knew right from [her] first visit that she was there if I needed her, and she gave me the feeling that not only is she there, but the clinic is there, and the hotline is there. She really opened my eyes, and being who she was just made me feel comfortable that was a possibility, so I think it's the personality of the nurse too that really helped me.

For some clients, coping was enhanced merely by having access to the Hotline, whether it was ever used or not. For others having had face-to-face contact with the nurse was critical, because they would never have initiated a call to the health centre or Hotline unless they could put "a face to a name." When asked what program component was most crucial to their feelings of satisfaction with the program, some clients commented that the Hotline had provided the greatest sense of comfort that help would be available if needed. Others felt that the home visit on the day following discharge was the most important aspect of the program, since it reassured mothers that all was well with themselves and their baby. Yet others commented that the technical and interpersonal skills of the nurse were what the made the program "work" for them. There was overwhelming evidence that the development of a supportive nurse-client relationship during the initial home visit was an important determinant of subsequent client initiated contact with the health centre. Comments made by the clients enrolled in this study would indicate that approaches to postpartum follow up that do not involve face-to-face contact between nurses and clients (Edwards & Sims-Jones, 1997) may not be highly successful in attaining intended outcomes.

Limitations of the Study

A clear limitation of this study is the fact that calculation of the actual amount of nurse-client interaction is contingent on the accuracy of the data recorded by nurses and clients. Five clients (20%) "forgot" to fill in some or all of the requested data, although in all cases there was evidence from discussion with clients that contacts with a nurse had been minimal. It is also likely that nurses' records underestimate the actual frequency of contact between clients and nurses from the health centre. The client record is retained by the nurse who initiates contact with each client until she officially terminates contact with that client. Unless she is available when the client calls the health centre, a record of the interaction may not be made, since the chart may not be available to the nurse responding to the call. Thus the "strength" of intervention in this study is merely an estimate of actual contact between nurses and clients.

An additional limitation is the reliance on nurses' and clients' recall of their interactions, which may not fully capture the true essence of what actually transpired. A truer representation of the process of interactions could perhaps have been obtained through participant observation. It is nonetheless assumed that both clients and nurses reported what they consider to have been the most salient aspects of their interactions, and the findings described herein at least reflect their perceptions of what actions were taken, and why. In the long run, this is probably of greatest importance, as it represents what they recall as significant in the encounter.

Discussion

Although generalization to other programs or settings from this small study must be approached with caution, these findings support the need to have a thorough understanding of the multiple factors that can influence program effects prior to conducting outcomes research (Chen & Rossi, 1989; Sidani & Braden, 1998; Wholey, 1987). While clients generally reported knowledge gain, increased confidence in their parenting skills, and improved feelings of efficacy in relation to infant care over the duration of the study, there was substantial variation in the "strength" of outcomes, and in the pathway through which they were achieved. Differences in personality, as well as in skill and knowledge level prior to entry into the postpartum program, access to sources of help other than the public health nurse, some differences in expressed client need, and fluctuation in program implementation due to setting demands and nurses' approach all accounted for some of the variability in reported client outcomes. To have simply measured outcomes without prior knowledge of the factors that contributed to their achievement could have led to spurious conclusions.

The program goal implied in agency documents is "to enhance, maintain, and restore the health and well-being of mothers and newborns within the context of family and community [in part] by providing an opportunity for women to participate in and determine their own health care." The statement suggests a broad conceptualisation of health, consistent with a primary health care approach to service delivery. The data revealed that nurses and clients tend to operate from a narrower definition of health, that being a safe and secure postpartum recovery for mother and baby. Given that program performance measures include "medically" oriented indicators such as maximum breast feeding duration and reduced hospital readmission (as well as customer satisfaction), the bio-medical view of health which appears to guide nursing practice is not surprising.

It was nonetheless apparent that social support theory (Stewart, 1993) is at least implicitly imbedded in the practice of public health nurses, and that much of their activity is focussed on the provision of needed informational, emotional, appraisal, and to a lesser extent instrumental support to postpartum families. The outcomes which clients described as consequential also related to the various forms of support provided by nurses and other relevant members of the social network, which enhanced their ability to cope with uncertainty during the early postpartum phase. These findings are consistent with those in other studies of the experience of early postpartum discharge (Haynes, 1995; Tanaka Collins, 1995). Few of the babies in the current study encountered problems of a serious nature, and most of the mothers reported effective coping skills when first interviewed by the researcher. The high level of satisfaction with the program can be attributed to the fact that nurses were able to help resolve the majority of immediate concerns mothers had, primarily in relation to their infants (Haynes, 1995) and to breast feeding (Tanaka Collins, 1995). It appears that the program as currently designed is highly effective in meeting the immediate postpartum needs of mothers.

It is noteworthy, however, that few of the clients in this study attributed any significant changes in their own or their family's overall health to participation in the program, which is possibly explained by failure to actively involve clients in mutual goal setting at the outset. It is difficult for clients, as well as nurses, to articulate what was achieved from participation in the program, when the major objectives of the interaction are not clear from the start. Since nursing interactions should be selectively employed with a view to bringing about desired change, it is crucial that practitioners have a clear conceptualisation of the processes by which intended effects will be attained (Gottlieb & Feeley, 1995). That requires an explicit theoretical approach to practice.

Furthermore, if actual public health nursing practice is to be consistent with its theoretical underpinnings (Stewart, 1995), greater attention must be paid to the health promoting role that nurses must play during all client contacts, whether interactions occur at the individual, family, or group level. Unless nurses are able to make explicit their unique focus on the health of the whole individual seen within the context of family and environment, they risk missing the opportunity, offered through health care reform, to reaffirm their role in assisting individuals to function at the highest level of their potential (International Council of Nurses, 1996). As others (International Council of Nurses, 1996; Kendall, 1993) have suggested, if public health nurses' health promoting role is ever to be fully realized, changes will need to occur at the academic, practice and policy levels.

References

Bickman, L. (Ed.). (1987). The functions of program theory. In Using program theory in evaluation. New Directions for Program Evaluation, 33 (pp. 5-18). San Francisco: Jossey-Bass.

Bond, S., & Thomas, L. H. (1991). Issues in measuring outcomes of nursing. Journal of Advanced Nursing, 16, 1492-1502.

Capital Health Authority. (1996). Healthy Beginnings Postpartum nursing manual. Edmonton, AB: Public Health Services, Community Health Promotion and Prevention Services.

Chen, H.-T. (1990). Theory-driven evaluations. Newbury Park, CA: Sage.

Chen, H.-T., & Rossi, P. H. (1989). Issues in the theory-driven perspective. Evaluation and Program Planning, 12, 299-306.

Edwards, N. C., & Sims-Jones, N. (1997). A randomized controlled trial of alternative approaches to community follow-up for postpartum women. Canadian Journal of Public Health, 88(2), 123-128.

Finney, J. W., & Moos, R. H. (1989). Theory and method in treatment evaluation. Evaluation and Program Planning, 12, (307-316).

Gottlieb, L. N., & Feeley, N. (1995). Nursing intervention studies: Issues related to change and timing. In M. J. Stewart (Ed.), Community nursing. Promoting Canadians' health (pp. 618-639). Toronto, ON: W. B. Saunders Canada.

Griffiths, P. (1995). Progress in measuring nursing outcomes. Journal of Advanced Nursing, 21, 1092-1100.

Grossman-Schulz, M., & Feeley, N. (1997). A working model of support. In L. N. Gottlieb & H. Ezer (Eds.), Perspective on health, family, learning, & collaborative nursing: A collection of writings on the McGill Model of Nursing (Pre-publication ed., pp. 277-286). Montreal, QC: McGill University School of Nursing. (Original work published 1984)

Haynes, J. A. (1995). The effect of telephone follow-up on maternal concerns and confidence after early hospital discharge. Unpublished master's thesis, University of Alberta, Edmonton, Alberta, Canada.

International Council of Nurses. (1996). The value of nursing in a changing world. Geneva: Author.

Jennings, B. M. (1991). Patient outcomes research: Seizing the opportunity. Advances in Nursing Science, 14(2), 59-72.

Kendall, S. (1993). Do health visitors promote client participation? An analysis of the health visitor-client interaction. Journal of Clinical Nursing, 2, 103-109.

Lipsey, M. W., Crosse, S., Dunkle, J., Pollard, J., & Stobart, G. (1985). Evaluation: The state of the art and the sorry state of the science. In D. S. Cordray (Ed.), Utilizing prior research in evaluation planning. New Directions for Program Evaluation, 27 (pp. 7-27). San Francisco: Jossey-Bass.

Macleod Clark, J., Franks, H., Maben, J., & Latter, S. (1997). The Developing Quality Indicators Project. Health Promotion in Primary Health Care Nursing. Phase 2: Final Report. London, UK: Health Education Authority.

Mitchell, P. H., Ferketich, S., & Jennings, B. M. (1998). Quality health outcomes model. Image: Journal of Nursing Scholarship, 30(1), 43-46.

Qualitative Solutions and Research. (1996). User's guide for QSR NUD*IST (3.0.4 for PC/Windows). Thousand Oaks, CA: Scolari.

Sidani, S., & Braden, C. J. (1998). Evaluating nursing interventions. A theory-driven approach. Thousand Oaks, CA: Sage.

Stewart, M. J. (1993). Integrating social support in nursing. Newbury Park, CA: Sage.

Stewart, M. J. (Ed.). (1995). Community nursing. Promoting Canadians' health. Toronto, ON: W. B. Saunders Canada.

Strickland, O. (1997). Outcomes research. Are we rigorous enough? Reflections, 23 (1), 8-10.

Tanaka Collins, W. (1995). The experience of early discharge: A maternal perspective. Unpublished master's thesis. University of Alberta, Edmonton, Alberta, Canada.

Wholey, J. S. (1987). Evaluability assessment: Developing program theory. In L. Bickman (Ed.), Using program theory in evaluation. New Directions for Program Evaluation, 33 (pp. 77-92). San Francisco: Jossey-Bass.

CHAPTER 5

Summary, General Discussion, and Recommendations

SUMMARY, GENERAL DISCUSSION AND RECOMMENDATIONS

Introduction

The aim in this research project was to clarify what goes on in the process of delivering public health nursing services in a program that is offered to mothers and babies discharged from hospital within a short time of delivery. The study was inspired by the need to respond to demands for accountability in health service delivery, that is, to use information about performance as a guide to subsequent decision making related to program improvement (Government of Alberta, 1994). The task of strengthening program performance through better understanding is the substance of evaluation, the goal of which is to systematically examine "social policies, programs and initiatives in order to modify and improve their effectiveness" (Pawson & Tilley, 1997, p. xii). The concept of effectiveness, which means that *desired* effects are achieved through *purposeful* activity, implies that evaluation must make explicit the mechanisms by which, and the context within which, selected actions accomplish their intended aims. To explain the mechanisms that account for effects, and highlight mediating factors that influence outcomes, a theoretical approach to effectiveness research is needed. Theory provides the conceptual scheme within which the findings of a study are analysed and interpreted (Chen, 1990) and makes explicit the standards used in making judgments about effectiveness (Kirkhart & Ruffolo, 1993).

The normative program theory which underpinned this research was grounded in primary health care philosophy. Primary health care, which embodies expectations for a redefinition and reorientation of the health care system, was first articulated through the Declaration on Primary Health Care in 1978. In that Declaration, health was reaffirmed as a fundamental right of all global citizens, and a social goal whose realization would require that people participate to the fullest extent possible in planning and implementing health services that meet their personal health needs, and those of their communities (World Health Organisation, 1978). Inherent in that objective is the responsibility of health care personnel to increase people's awareness of the factors that contribute to health, and to plan and deliver services that address such important determinants of health as environment, lifestyle and personal coping skills (Capital Health, 1997). Health promotion, defined as "the process of enabling people to increase control over, and to improve, their health" (World Health Organisation, Health and Welfare Canada, & Canadian Public Health Association, 1986, p. 1) is a quintessential strategy for achieving the ideals of primary health care. The commitment to health and social equity embodied in the concept of health promotion is intrinsic to the practice of nursing, and can be traced back to the influence of such leaders of modern nursing as Florence Nightingale (Baly, 1973) and Lillian Wald (Wald, 1915). It is no coincidence that in setting the agenda for attaining *Health for All,* it was acknowledged that nurses would have to play a major role in reaching that goal (Mahler, 1978).

The health promoting role of nurses is particularly salient to public health nursing, given the current focus of the health care system on community-based delivery of services. The rhetoric of primary health care will never succeed in effecting a shift away from the current emphasis on curative care, unless those practitioners whose primary function is to promote and preserve the health of individuals, families, and communities assume responsibility for helping people visualise and attain their full health potential (Stewart & Langille, 1995).

The theoretical framework selected to underpin this research project was based on the McGill Model of Nursing, one of the few conceptual models in nursing whose substance and structure are grounded in primary health care philosophy (Gilchrist, 1973/1997). In essence, the McGill Model positions nursing within a health care system that is client-centred, and focussed on helping people develop healthy ways of living. The function of nursing in this model is complementary to that of other health care providers. The goal is to increase individuals' knowledge of the determinants of health, and enable them to develop problem-solving skills that will allow them to overcome the challenges they face in dealing effectively with life situations (Allen, 1977/1997). The McGill Model as it was used in this study thus provided the standard against which to examine public health nursing practice in the Postpartum Program. It offers a normative frame of reference against which to judge the effectiveness of nursing practice.

Study Design

The design of this study was informed by Chen's (1990) framework for conducting evaluations. When theory is used to guide an examination of program processes and outcomes, the researcher is better able to help clarify whether the program is being implemented under conditions that reflect beliefs about what *should be* (i.e. normative program theory). Program theory also makes explicit the connections between a program's operations and its effects, and helps identify outcomes that might not otherwise have been anticipated. When the program as delivered does not conform to the normative theory, stakeholders can take action to strengthen program structure and implementation processes, if they agree that the theory adequately reflects their own expectations about what the program should deliver (Chen, 1990).

The program theory that was developed for this research was stated as follows:

> *Public health nursing interactions during which the capabilities, unique characteristics and needs of families (client) are identified and accurately interpreted, will result in appropriate and responsive nursing interventions, aimed at improving family competence in achieving overall health goals, contributing to increased levels of perceived confidence and efficacy in relation to parenting.*

That statement reflects a number of underlying assumptions. First, it identifies individuals within the context of their families as the focal point around which services are planned and delivered. Second, it emphasizes that the outcomes of nursing practice must reflect nurses' contributions to promoting individual and family development (goal attainment) during periods of transition (parenting), in a manner that safeguards respect for clients and promotes self-reliance (confidence, efficacy). Third, since changes (i.e. improvement) in health state or behaviours are suggested within a framework that incorporates family and environmental factors (capabilities, characteristics, unique needs), the statement affirms the need to explain how nursing actions taken in specific situations reflect the expectations, values, and circumstances of clients. The program theory thus links examination of outcomes to the rationale for planning and selecting interventions in response to unique client needs. Implicit in the theory is the concept of empowerment, "a construct that involves people assuming control and mastery over their lives in the context of their social and political environment" (Wallerstein, 1992, p. 198). Inherent in this concept are perceived self-efficacy (i.e. mastery in managing life situations) and desire for change. Empowerment can therefore be conceptualised as a mechanism for attaining desired health outcomes. Empowerment begins with meaningful involvement of people in interpreting their own concerns and health issues, without which delivery strategies risk being irrelevant, alienating people from a potential source of help (Labonte, 1994).

The normative program theory was developed to guide the collection of data about structure, intervening, or other mediating factors linking nursing actions to program outcomes. There was currently no *explicit* model guiding nursing practice in the organisation in which the study was conducted. To better understand how an explicit theoretical approach to practice might influence what actually went on in the program, three of six study nurses were taught to use the McGill Model at the outset of the study. The other three nurses continued to practice according to their own implicit model. It was assumed that if all public health nurses inherently practised within a health promotion framework (Rodger & Gallagher, 1995), there could be relatively little difference in program processes or outcomes between the two practice delivery models. If, however, practice was still implicitly grounded in a more "traditional" model of health service delivery (the bio-medical model), then significant differences in the actions and activities of nurses in the two service delivery groups were anticipated.

Data Collection and Analysis

A qualitative design was selected, using ethnographic techniques for interviewing and data analysis. The participants in this research were six public health nurses involved in delivery of the Postpartum Program and 25 of their clients who agreed to participate in the study. Data collection methods included the acquisition of demographic and social information, captured in quantitative format. Additional quantitative and qualitative information was obtained from nurse and client participants through face-to-face interviews, from review of nursing records, and from notebooks provided to clients by the researcher during the first interview.

Data were initially analysed separately for each of two service delivery approaches, and were later compared. Taped interviews were transcribed verbatim, and were then analysed with the help of a computer software package designed for qualitative data storage and indexing (Qualitative Solutions and Research, 1996). Content analysis was used to affix codes and identify sub-themes in the data.

Findings

Unquestionably, the most disappointing finding of this study was the realization that the orientation to the McGill Model of Nursing appeared to be inadequate to significantly influence the practice of the three nurses assigned to that group. As a consequence, it was not possible to carry out a comparative analysis of the two service delivery models as planned in the design of the study. Findings were therefore reported for all six nurses (and their 25 clients) as a homogeneous group, since the differences between the groups were insufficient to warrant treating them separately. In retrospect, that outcome might have been predictable.

In personal communication with Dr. Laurie Gottlieb (October, 1997), McGill University School of Nursing, it was discerned that workshops are seldom adequate to transform the practice of nurses who do not already hold values and perspectives consistent with the model. More importantly perhaps is the fact that practice is unlikely to change unless the whole setting in which nurses practice supports a redefinition of the nature and scope of nursing. To "prepare the environment," nurses who have been socialized into a chosen professional practice model must play key roles in providing "on site" supervision to nurses learning to practice according to the precepts of the model. Transforming nursing practice requires visionary leadership from the most senior levels within the organisation, and the articulation of a set of values and behaviours that are consistent with a model of professional practice. Furthermore, assessment tools and other aspects of the work environment must facilitate, rather than hinder practising from a particular perspective (Shannon, 1985/1997).

In this study, only practising nurses enrolled as participants had been oriented to the McGill model of nursing. Their colleagues and perhaps most importantly, their managers had received no exposure to the concepts of the model. In fact, some managers had expressed concern about the potential impact of the study on program operations, in view of heavy workloads and inadequate staff resources. Since managers "control" the evaluation of performance, it is difficult to "socialize" nurses into adopting new practice patterns unless there is consistency between the values and expectations of managers and their staff (Day, Field, Campbell, & Reutter, 1995; Reutter, Field, Campbell, & Day, 1997). Without the presence of positive role models and support from managers and colleagues to experiment with new approaches to service delivery, it is possible that the nurses in this study perceived a conflict between the expectations of the researcher and the realities of their work environment. The values and norms of the workplace would therefore take precedence over newly acquired skills and knowledge (Reutter et al., 1997), particularly as workload demands inhibited nurses' ability to do more than respond to the immediate concerns of their clients (Day et al., 1995).

It has been suggested that an audit of practice is a useful mechanism for highlighting inconsistencies between expectations for accountable nursing practice, and what is actually occurring in the process of delivering services (Grossman, 1985/1997). The research reported herein provides an opportunity for program managers to consider the discrepancies between the researcher's beliefs about what public health nursing practice *should be* and what was uncovered empirically. Should there be a need or desire to realign nursing practice to be more consistent with revised expectations, adopting a framework such as the McGill Model of Nursing within which to view nursing practice would be vital (Shannon, 1985/1997). It is extremely difficult to understand program processes and effects in the absence of a conceptual framework that is operationalized in practice (Grossman-Schulz & Feeley, 1984/1997).

A second major outcome of this study was the demonstration that nursing practice in the Postpartum Program is still very much rooted in the "traditional" model of health care delivery. Despite assertions that public health nursing practice is heavily focussed on health promotion (Cradduck, 1995), the evidence detailed in Chapter 3 suggests that nurses in this program are not particularly adept at helping individuals broaden their horizons with respect to *health*. By and large, the focus of activity is on problem resolution, and client needs are narrowly defined as concerns and issues related to postpartum adjustment for mother and baby. This finding was surprising, and disappointing, for a number of reasons.

Public health nursing has a rich tradition of dedication to the promotion of *health* (Dock, 1937), and its practitioners have long strived to empower individuals and communities through personal and social development, by providing information, education for health, and enhancement of life skills. The aim of nursing intervention in health promotion is to help remove obstacles that stand in the way of attaining optimal functioning (Hanchett & Clarke, 1988). There is no question that nurses participating in this study wanted to, and did help new mothers become knowledgeable and skilful in caring for their newborn and, in some cases, issues involving other members of the family were addressed. It was nonetheless obvious that attention was directed at increasing maternal self-efficacy in managing postpartum and infant care problems, rather than enhancing the family's sense of being in control over the forces affecting their lives in significant ways. It was the latter conceptualisation of efficacy which guided the development of the program theory constructed for this research. It was assumed that nurse-client interactions would reflect substantial variation in the type of nursing services provided, consistent with the divergent needs of clients who represented a wide range of socio-economic strata, marital status, age and parity. That relatively few differences were actually found in terms of the content or process of interactions reinforces the researcher's contention that nursing practice in this program is problem focussed, rather than client centred. Given that the majority of "problems" are much the same across clients (e.g. concerns about breast feeding, infant jaundice), nurses' responses are fairly routinized and reflective of their "medical" expertise in matters related to the care of mothers and their newborns.

Although the unit of service in nursing is generally assumed to be the family viewed within the context of its environment, even when care is primarily given to an individual

(American Nurses' Association, 1980), there was limited evidence of an "ecological" approach to clients in this research. The nurses who had been introduced to the McGill Model were more likely than their non-McGill counterparts to invite other family members to be present during assessment of the mother and baby, and in some instances concerns involving other children, and occasionally partners, were discussed. In general, however, clients did not feel that the program had contributed to the health and well-being of the family, except to the extent that nurses had helped the mother "sort things out, and therefore I was better as a family member, so it kind of in a roundabout way took care of that . . . if you're not feeling good, you can't contribute to the whole bigger picture." Postpartum issues are the focal point around which most nurse-client interactions occur, and there is little incentive to broaden the discussion to include the family's overall goals for health. Assessment tools, agency protocols, and workload pressures all play a role in narrowing the focus of interactions to resolution of short-term problems, blinding nurses to the possibilities that might exist for engaging clients in addressing long term, and possibly more complex health issues.

Meaningful involvement of clients in clarifying mutual purpose and goals with respect to the provider-client interaction is key to the development of an empowering approach to service delivery (Labonte, 1994). It is well recognized that nurses and clients "will have to change the way they work together" (Hughes, 1995, p. 533) if meaningful citizen participation in health care decision-making is ever to be realized. The evidence from this study corroborates previous research findings that genuine client participation is rarely initiated by nurses (Kendall, 1993; Latter, Macleod Clark, Wilson-Barnett, & Maben, 1992), and demonstrates that little progress has yet been made in enacting this primary health care principle.

In this research, the nurses who had been sensitized to the importance of mutual goal setting, as conceptualised in the McGill Model, were better able than their "non-McGill" colleagues to articulate what they felt were the client's priorities in relation to the nurse-client interaction. Consequently, they could more easily speak to what they felt had been accomplished through their interactions with clients. In all cases, however, client goals were described in terms that clearly reflected a narrow focus on physiological or emotional concerns associated with postpartum adjustment.

> She wanted some help with her physiological healing, and she had some breastfeeding concerns, and wanted to learn more about breastfeeding, and some emotional concerns . . . one of her concerns was being there for her other child.

That focus, which characterized all interactions between nurses and their clients, restricted client involvement in prioritization of issues to the identification of immediate postnatal needs. There was little opportunity to explore broader family health issues, because nurses were more focussed on risk reduction and health maintenance than on helping clients visualize and attain their full health potential (Neufeld & Harrison, 1995). Not surprisingly, nurses had great difficulty articulating what decision-making process underpinned their interactions with particular clients. This can likely be explained by the fact that most of the situations they encountered in practice were common everyday problems which tapped their extensive knowledge and experience, and for which there was little need for in depth analysis (Luker & Kenrick, 1992). They simply "zoomed in" on the problem that was identified, rather than having to carefully assess what might be the most appropriate action to take faced with an unfamiliar situation, such as might occur if clients were meaningfully involved in identifying overall health goals that were unique to them (Allen, 1977/1997).

Clearly, nursing practice in the Postpartum Program was found to be inconsistent with the normative program theory, which reflects current beliefs and expectations about the scope and nature of public health nursing in Canada in the 1990s. The negative definition of health which shapes nurse-client interactions preempts genuine client participation in identification of broad health issues that may be of concern to them, and sets in motion a series of activities that are largely centred on resolution of immediate physiological concerns related to postpartum adjustment. Lack of any reference to a positive view of health in program documents, assessment tools that reinforce a "medical model" approach to service delivery, and agency protocols that de-emphasize long-term involvement of nurses with families in transition all account for the fact that the normative theory developed to guide this research failed to explain how public health nursing achieves positive outcomes in the Postpartum Program. Yet, clients expressed a high level of satisfaction with services provided, and nurses generally felt that the program was very effective in meeting the needs of clients.

Explicating what actually occurs in the Postpartum Program was a major aim of this research. A third result of the study was substantiation that the contributions that nurses make to the achievement of health can be measured in the short term by such indicators as increased skills and knowledge, improved coping ability and self confidence, and enhanced trust in care providers (Macleod Clark, Franks, Maben, & Latter, 1997). As demonstrated in previous research (Besner, 1994; Machen, 1996; Wallace & Appleton, 1995), supportive nursing interactions appear to be an important mechanism in attaining those outcomes.

According to Sidani & Braden (1998), high quality care is that which meets the criteria of accessibility, acceptability, efficiency, appropriateness and effectiveness, and also results in the best health outcomes for clients. Few clients in this study failed to comment that easy access to the public health nurse was essential to their sense of well-being after early discharge from hospital. The initial home visit, and availability of information from the health centre or Hotline on a 24 hour basis were cited by several clients as critical to the success of the Postpartum Program. Accessibility was defined by study participants as "having an answer back right away" when calls were made to the health centre, being able to drop in to clinic without the need for appointments, and receiving "close attention" from the public health nurse, either in the home if requested, or at the health centre, which for most clients was conveniently located relatively close to where they lived. Some clients felt that being able to maintain contact with the nurse who had initiated the home visit was an important feature of accessibility, since they were more comfortable being able to put a face to a name when they contacted the health centre.

There was overwhelming consensus that public health nursing services were very agreeable to clients. The staff's expertise was seen as an important aspect of the Postpartum Program, and it was often mentioned that accessing nurses was preferable to contacting the family physician, since calls could be directed to them spontaneously and they were more comfortable to speak to because they seemed to really care - "they're like a friend, they don't talk down to you." It is very clear that clients consider acceptable those services that 1) are delivered in a compassionate, relaxed, and gentle manner; 2) demonstrate genuine caring, concern, and attentiveness - "it was like she had no one to focus on but us," and 3) create a comfortable and supportive context within which further interactions can occur as needed. Although clients reported supportive interactions with all of the nurses involved in this study, a few commented on past negative experiences with nurses which had inhibited further contact, and in at least one case had caused considerable maternal anxiety.

Although assessment of efficiency was not a goal of this study, it would appear that satisfactory outcomes were achieved at a relatively low cost. The estimated mean total nursing time (direct and indirect) recorded in this client sample was 5.3 hours, which undoubtedly represents a significant cost savings compared to the costs of hospitalization. Only four of the 25 clients indicated they would have preferred a longer stay in hospital, and all study participants commented that even if the hospital stay was longer, they would still have wanted the postnatal home visit by a public health nurse.

Appropriate services are those that meet client needs, and resolve the presenting problem (Sidani & Braden, 1998). What all clients held in common in this study, though not to the same extent, was a need for knowledge and/or skill related to infant care / feeding and physiological recovery, reassurance that mother and infant had been assessed by a competent professional and "that all was well," and the security of knowing that help was available if needed. Nurses appropriately responded to these major client concerns with answers to questions, anticipatory guidance as judged appropriate, skill building - particularly with respect to breast feeding and infant care, validation of mothers' knowledge and ability, and lots of reassurance that they could be contacted any time that help was needed. Nurses' actions were purposefully selected to build knowledge, increase parental confidence, and provide support to mothers, and those were the major effects that clients reported from participation in the program. It can therefore be said that nurses were effective in achieving their intended outcomes. As previously noted, however, when judged against the primary health care standard of health promoting nursing practice, the Postpartum Program cannot be said to be totally appropriate, since postpartum concerns, rather than broad health-related needs, determined nursing actions.

There were several instances in which problems amenable to nursing intervention were raised by clients during interviews with the researcher, but had not been discussed with nurses. This occurred either because clients did not perceive those issues to be within the realm of services provided by the program, or they simply had not thought of initiating a call to the public health nurse, who was no longer in regular contact. Clients' expectations about the program, and nurses' explanations to clients about the nature of the program ("she knew we were there to make an assessment of her and the baby, ensure the family was functioning well, establish good breast feeding") circumscribed the content of nurse-client interactions, and limited the duration of contacts to a short period of time following delivery. In reality, funding constraints, service demands in the Postpartum and other agency programs, and structural processes (e.g. agency protocols) contribute to an environment in which it would be difficult indeed for nurses to allocate the time required to address in depth many of the broad health and social needs of clients. As a consequence, many areas in which nurses could have advocated on behalf of clients never surfaced. It appears obvious that systemic reform of the health care system will be needed before the practice of individual public health nurses can be expected to change. That is, a reorientation of the system toward health (versus illness), meaningful client participation, greater accountability to the client and resources matched to health needs will be required if the principles of primary health care are ever to be realized in practice (Hughes, 1995).

If outcomes are the yardstick by which program effectiveness is assessed (Sidani & Braden, 1998), there should be a high degree of correlation between the results that providers aim to achieve (e.g. knowledge, confidence) and explicit performance indicators for the program, as well as evidence that specific interventions in fact produced the outcomes. Performance measures for the program include "health" outcomes (maximum breast feeding duration and low re-admission rates), and customer satisfaction. None of the clients who participated in this study was re-admitted to hospital, but one nurse claimed that re-admissions occur on a fairly regular basis, usually due to factors over which nurses have little control (e.g. jaundice unrelated to hydration). Nurses' expertise and diligence in monitoring newly discharged mothers and babies was shown to have a direct impact on reducing problems related to inadequate infant hydration in this client sample.

Despite solid evidence that a significant amount of nursing activity in the program is devoted to educating and supporting lactating mothers, clients reported that nurses would have little influence on the actual *duration* of breast feeding once initial problems had been resolved (usually within the first few days following discharge). There was some suggestion, however, that longer breast feeding duration could have been achieved among single and/or teenage mothers, had regular home visiting been maintained for several weeks following hospital discharge.

If breast feeding duration (which nurses only influence to a limited extent), hospital re-admissions (which occur despite appropriate nursing actions), and client satisfaction (which is high) are the criteria for outcome measurement, the evidence for program effectiveness is somewhat equivocal. Furthermore, public health nurses (especially those in the "non-McGill" group) were often unable to articulate what they felt were the outcomes of their interactions with specific clients. This suggests that in particular cases their interventions were perhaps more "routinized" than intentionally selected with a specific outcome in mind. If high quality care is ideally tailored to unique client needs, which in turn is what influences the type and intensity of resources required to achieve results (Sidani & Braden, 1998), then the evidence for provider effectiveness in this study is also somewhat ambiguous.

Conclusions

The findings from this study re-emphasize that evaluating the outcomes of nursing interventions is a complex endeavour. Although it is relatively easy to identify specific outcomes that clients attribute to their interactions with nurses, it is apparent that the strength of outcomes is highly variable, and that pathways to their achievement are non-linear. Client factors, setting characteristics, differences in nurses' personalities, approach to practice and teaching styles, as well as mediating factors such as client expectations, and accessibility / acceptability of services all play a role in influencing the selection of interventions and outcomes achieved. When a program has not been well described through prior exploratory study such as was carried out in this research, doing impact analysis or outcomes research could easily lead to spurious conclusions.

Perhaps the most important contribution made through this research has been a demonstration of the important role that theory plays in helping to focus nursing practice and research. In a practice discipline such as nursing, theory (partly derived through scientific inquiry) is what provides direction about the most appropriate means to be employed in achieving positive changes in client health. It provides the conceptual scheme whereby the relationships among client factors, nursing actions, and desired outcomes are made explicit, and enables nurses to predict the likelihood of achieving their desired objectives in light of particular client circumstances. Without a theoretical underpinning to practice, nurses may find themselves unable to articulate the decision-making process that motivates their actions, and to demonstrate that particular outcomes would not have occurred without their intervention. It is difficult indeed to document effectiveness without an explanatory framework within which to evaluate practice.

Theory facilitates the collection and interpretation of data, highlights alternative approaches that might be considered in efforts to improve practice, and helps to clarify presumed cause and effect relationships that account for program impacts. Although empowerment, as broadly defined for this study, did not adequately account for program processes and effects, it was nonetheless revealed that nursing practice indeed enhanced clients' sense of being "in control," and confident about their ability to manage postpartum concerns. The narrower concept of self-efficacy in relation to postnatal adjustment was found to be a useful construct for understanding what goes on in the Postpartum Program, and the provision of respectful and supportive nursing services was shown to be an important explanatory mechanism by which increased efficacy is achieved.

Limitations of the Study

Although evaluation methods were employed in designing this study, no judgement can be made about the effectiveness of the Postpartum Program. In order to provide a sense of the program as a whole, it would have been necessary to collect data about elements of the social and political context within which the program operates, and to include a much broader representation of stakeholders (e.g. managers, external agencies), delivery sites, providers and clients in evaluating the program. Most importantly, evaluation design would have incorporated the stakeholders' own frame of reference (i.e. implicit program theory), and preferences regarding the processes and outcomes that were to be investigated (Chen, 1990). The purpose of this study was not program evaluation, but enhanced understanding of the relationship that exists among client needs, nursing actions, and client outcomes in a program delivered by public health nurses. The study was guided by a theoretical framework that reflected the researcher's values, not necessarily those of the stakeholder. This research nonetheless provides information that can help stakeholders pinpoint some potential areas for program improvement, and has highlighted program outcomes of significance to clients that could be incorporated into future program evaluation.

One intent of this study was to better understand whether and how practising from the McGill Model of Nursing would influence program processes and effects. It was not possible to achieve this goal, because the method used to "orientate" nurses to the conceptual practice model appeared to be insufficient to permit a meaningful comparison of the two program delivery conditions. As a consequence, a large volume of data that were in essence very similar across nurses and clients was obtained, and no contrast in styles of practice and consequent outcomes could be made. The high consistency noted in the themes that emerged from data initially analysed separately for each of the two practice delivery models nonetheless strengthens the credibility of findings, enhancing validity of the research.

Only a very small number of clients and public health nurses involved with the Postpartum Program were included in this study, and they may not be representative of the majority of individuals in those populations, particularly as participation was completely voluntary. The client sample was nonetheless socially and economically diverse. The fact that findings were consistent with those of other studies of nurses whose scope of practice is similar to that of public health nurses (Kendall, 1993; Lauri, 1994; Machen, 1996; Macleod Clark et al., 1997; Wallace & Appleton, 1995) is encouraging, and lends to the credibility of the results obtained (Field & Morse, 1985).

A majority of clients expressed positive feelings with respect to their interactions with public health nurses, and that is somewhat troublesome, since it could be argued that the sample was either non-representative or that clients did not feel comfortable discussing negative impressions with the researcher. It would be foolhardy to assume that the outcomes of interactions with public health nurses are always as positive as those reported in this study, although these findings are consistent with other research in which client satisfaction was addressed (Besner, 1994; Macleod Clark et al., 1998). The fact that clients were directly recruited by the researcher diminishes the likelihood that participant selection excluded individuals known in advance to have had less favourable impressions. As well, clients made several suggestions for program improvements (e.g. more visiting, clarification of program scope) and in a few instances contrasted their experience with the current public health nurse with a previous nurse about whom they had less positive feelings. This suggests that clients were not overly reluctant about discussing negative aspects of their relationships with public health nurses. It is more likely that the experienced nurses who self-selected for participation in this research have excellent clinical and interpersonal skills, and were confident that their practice could withstand scrutiny by the researcher.

Recommendations

Clarify Nurses' Role and Program Goals

The public health nurses who participated in this study are certain that the services they provide to clients are consistent with management's expectations of them. It was demonstrated that services offered conform with a bio-medical approach to health service delivery, the duration of nurse-client interactions is of relatively short term (about two weeks), and clients do not play an active role in needs identification and implementation of action plans that "fit" their unique family situation. Yet, program documents imply an emphasis on health and well-being (suggesting a positive view of health), on client-driven services that are responsive to needs (versus problems), and which occur for a period of up to six to eight weeks, or on an ongoing basis through Well Child clinics as needed.

It should be noted that nurses make a concerted effort to ensure that clients are well informed about the services available to them through the Health Centre ("we conduct a final visit on the phone, and at that time we explain all the clinic services that are offered through here, such as coming in to weigh the baby, the New Mom's Network group, our immunisation protocol, how to get in touch with the appointment desk, and that sort of thing"). Several of the clients in this study availed themselves of those services on one or more occasions during the first eight weeks after delivery. The fact nonetheless remains that most clients perceived that the Postpartum Program was primarily centred on the delivery of postnatal services which were available to mothers for a relatively short period of time ("It was just maybe one or, you know, two visits which basically dealt more with just if I'm OK, and [baby's] OK, and if I needed any information. . . . I think the program [exists] to alleviate some of the work of the nurses in the hospital, it seems. That's how they're trying to come across, you know").

An examination of practice reveals that the primary focus of activity is the provision of information and support, generally in relation to the mother's and infant's immediate postpartum recovery, and promotion of breast feeding. The program appears designed largely to offer a safe and cost effective alternative to hospital care for new mothers and their babies, despite program goals that hint at a broader health focus. A question which inevitably arises from this research is "what is the underlying theory that dictated to program planners that public health nurses would be the preferred provider in the Postpartum Program?" Measuring the effectiveness of interventions requires making explicit the explanatory framework that clarifies what clinical knowledge is needed to attain intended program results (Sidani & Braden, 1998). The theoretical underpinning of public health nursing practice is primary health care, within which health promotion is a fundamental strategy used in attaining health outcomes. If the Postpartum Program is intended to provide an entry point through which young families can learn about environmental and personal factors that influence health, and to develop skills that will enable them to take action to overcome obstacles to health, then the preferred provider is the public health nurse, whose skills are directly related to achievement of those goals. The results of this study would suggest that at present, public health nursing skills and knowledge are under utilized in the Postpartum Program.

Establish Evaluation Criteria

Accountability in health care demands that professionals provide care of high quality, and with *predictable* outcomes. Furthermore, to ensure that services are acceptable and appropriate to meet perceived needs, they should be discussed with clients at the outset (Sidani & Braden , 1998). It was evident from this study that relatively little genuine negotiation occurs between nurses and clients regarding the frequency or content of interactions subsequent to the first home visit. In several instances, nurses could not articulate what the clients' expectations of them might be, and were unsure to what extent their interventions had benefited clients. It is impossible to claim that services are effective when intended benefits in particular situations of care cannot be described. Nurses should engage in meaningful goal setting with clients, and should evaluate the success of their interventions in relation to the extent to which mutually established goals and objectives are attained.

Increase Flexibility in Program Delivery

Several of the clients who participated in this study stated they would have preferred more interaction with nurses over a longer duration, to provide an opportunity to discuss issues or questions that surfaced long after "routine" contacts had ceased. In particular, single mothers all commented that more frequent interaction with the nurse, with whom they had developed a comfortable and trusting relationship, would have been welcomed. In fact, two of the teenage mothers (as well as two of the nurses) lamented the fact that there was discontinuity between pre-natal services, which may not be provided through the health centre, and post-natal services offered by the public health nurse. Two of the teenage mothers (and one other multiparous client) stated they would appreciate more education (e.g. about infant care and parenting) provided in their homes by public health nurses prior to delivery.

Nurses acknowledged that clients were generally vague about the nature and extent of services offered through the Postpartum Program (as well as other health centre programs). It was evident from this study that clients had limited expectations about the program, and failed to ask for assistance or information that would have been willingly provided by nurses had they but known more about clients' needs and issues. Several areas in which nurses could have advocated on behalf of clients never surfaced (see Attachment 1). This problem of "mis-communication" appears to stem from a lack of clarity about the program's true purpose. If indeed the program is intended to promote health and well-being of families to the end of the postpartum period (6 to 8 weeks), then more flexibility must be afforded public health nurses in deciding the duration and frequency of contact that is optimal in particular instances. As it is, caseloads and workplace demands create pressure to terminate contacts when immediate postpartum concerns have been resolved. Some determination will have to be made as to whether the program is genuinely client and health focussed, or problem focussed and driven by system needs and constraints.

Increase Standardization in Selected Content Areas

The effects of an intervention may be mediated by its intensity (amount, frequency, duration), as well as by pre-existing levels of client knowledge, motivation (desire), or perceived efficacy (Ciliska et al., 1994; Sidani & Braden, 1998). Determining the appropriate strength of an intervention in particular instances therefore requires thorough understanding of what needs to be influenced or changed, how best to effect desired outcomes, and when and how to measure that the intended goal has been attained (Gottlieb & Feeley, 1995). In this research, it was revealed that nurses' teaching style varied, and significant variation occurred in the nature and amount of anticipatory guidance provided during the initial home visit. Yet, the expressed postpartum needs of clients were quite similar, and the same concerns about baby care and infant feeding reoccurred frequently (see Attachment 1), but from the clients' perspective, were not always adequately addressed. It would be helpful if nurses more consistently assessed clients' level of knowledge and perceived efficacy in managing these regularly recurring situations. Appraising client efficacy in specific areas can assist nurses to tailor their interventions to specific client needs, and provides a mechanism by which practitioner effectiveness can be measured, assuming it is possible to rule out other explanations for changes in efficacy (Holden, 1991).

Final Comments

In the past decade, research into the effectiveness of practice that is within the scope of public health nursing has produced a number of consistent results. It has been established that such interactions often incorporate the provision of information and support (Besner, 1994; Laffrey, Renwanz-Boyle, Slagle, Guthmiller, & Carter, 1990; Lauri, 1994; Machen, 1996; Macleod Clark et al., 1997), are based on mutual trust and respect between provider and client (Wallace & Appleton, 1995), and are generally associated with a high level of client satisfaction (Besner, 1994; Laffrey et al., 1990; Machen, 1996; Macleod Clark et al., 1997). It appears that programs are more likely to succeed in achieving intended outcomes when a clear relationship between client needs and appropriate nursing actions is established at the outset (Olds & Kitzman, 1990), and nurse-client exchanges are repeated on several occasions, and over a prolonged duration (Olds, 1992). Yet, in much of the research there is little evidence of meaningful client participation in planning and evaluating care (Cowley, 1995; Kendall, 1993; Macleod Clark et al., 1997), and as this study and others (Benson & Latter, 1998; Macleod Clark et al., 1997) have shown, nurses have not capitalized on their health promoting role to any significant degree.

The lack of a conceptual model to guide nursing practice appears to act a barrier to nurses assuming their proper role in health promotion (Macleod Clark et al., 1997). By using program theory and a comprehensive framework incorporating structure, process, and outcome variables as a template to guide data collection and analysis in this research, it has been possible to show that program structure may be a major deterrent to nurses adopting a style of practice that is congruent with the health promoting role advocated by their professional organisations. Nurses whose practice is guided by a model such as the McGill Model of Nursing will only experience frustration if their work environment is not conducive to enacting that particular value frame. Furthermore, it is likely that research into the effectiveness of public health nursing will continue to show disappointing results as long as the organisations in which nurses are employed do not support the holistic, family centred, and *health* related approach to service delivery that is integral to the discipline of nursing. Unfortunately, it will continue to be difficult indeed for public health organisations to support nurses and other providers in their health promoting roles, as long as the concentration of government health resources remain on curative institutions.

The research reported herein appears to be the first in which nursing practice has been examined from both a theoretical perspective and a comprehensive framework linking structure, process and outcome program dimensions. It is likely that the findings will generate some debate as to whether or not the program theory developed for this research is in fact appropriate, reasonable, and feasible given the current health care environment, but it does provide a clear starting point from which to engage in discussion. The specific findings from this research are less important than is the theory against which the results were cast. Not everyone may agree that the proximal goal of nursing is to enhance people's capacity to take responsibility for their own or their family's health, or that empowerment is the explanatory mechanism by which nursing outcomes are best achieved. What this research has highlighted is the importance of clearly articulating *what is nursing*. In the opinion of this researcher, the theory dev eloped for this project is very consistent with the views of nursing espoused by Nightingale and other nursing leaders such as Lillian Wald. It will be up to others to provide an alternative definition of the role and function of nursing and of the mechanism by which it achieves its effects, if they disagree with the basic premises postulated in this manuscript.

References

Allen, M. (1997). Comparative theories of the expanded role in nursing and implications for nursing practice: A working paper. In L. N. Gottlieb & H. Ezer (Eds.), Perspective on health, family, learning, & collaborative nursing: A collection of writings on the McGill Model of Nursing (Pre-publication ed., pp. 10-15). Montreal, QC: McGill University School of Nursing. (Original work published 1977)

American Nurses Association. (1980). Nursing. A social policy statement. Kansas City, MO: American Nurses Association.

Baly, M. E. (1973). Nursing and social change. London: William Heinemann Medical Books.

Benson, A., & Latter, S. (1998). Implementing health promoting nursing: The integration of interpersonal skills and health promotion. Journal of Advanced Nursing, 27, 100-107.

Besner, J. (1994). Nurse-client interactions in public health. An exploratory study of client needs, nursing interventions, and outcomes. Unpublished manuscript. University of Alberta, Edmonton, Alberta, Canada.

Capital Health. (1997). How healthy are we? A report from the Medical Officer of Health . Edmonton, AB: Author.

Chen, H.-T. (1990). Theory-driven evaluations. Newbury Park, CA: Sage.

Ciliska, D., Hayward, S., Thomas, H., Mitchell, A., Dobbins, M., Underwood, J., Rafael, A., & Martin, E. (1994). The effectiveness of home visiting as a delivery strategy for public health nursing interventions - A systematic overview (Paper 94-7). Hamilton, ON: McMaster University-University of Toronto, Quality of Nursing Worklife Research Unit.

Cowley, S. (1995). In health visiting, a routine visit is one that has passed. Journal of Advanced Nursing, 22, 276-284.

Cradduck, G. R. (1995). Primary health care practice. In M. J. Stewart (Ed.), Community nursing: Promoting Canadians' health (pp. 454-474). Toronto, ON: W. B. Saunders Canada.

Day, R. A., Field, P. A., Campbell, I. E., & Reutter, L. (1995). Students' evolving beliefs about nursing: From entry to graduation in a four-year baccalaureate programme. Nurse Education Today, 15, 357-364.

Dock, L. L. (1937). Whence the term 'Public Health Nursing'? The Canadian Nurse, 29, 714.

Field, P. A., & Morse, J. M. (1985). Nursing research: The application of qualitative approaches. Rockville, MD: Aspen.

Gilchrist, J. M. (1997). The nature of nursing in the health care structure. In L. N. Gottlieb & H. Ezer (Eds.), Perspective on health, family, learning, & collaborative nursing: A collection of writings on the McGill Model of Nursing (Pre-publication ed., pp. 2-9). Montreal, QC: McGill University School of Nursing. (Original work published 1973)

Gottlieb, L. N., & Feeley, N. (1995). Nursing intervention studies: Issues related to change and timing. In M. J. Stewart (Ed.), Community nursing: Promoting Canadians' health (pp. 618-639). Toronto, ON: W. B. Saunders Canada.

Government of Alberta. (1994). Measuring up. Edmonton, AB: Author.

Grossman, M. (1997). Creating a structure to support the McGill Model. In L. N. Gottlieb & H. Ezer (Eds.), Perspective on health, family, learning, & collaborative nursing: A collection of writings on the McGill Model of Nursing (Pre-publication ed., pp. 312-317). Montreal, QC: McGill University School of Nursing. (Original work published 1985)

Grossman-Schulz, M., & Feeley, N. (1997). A working model of support. In L. N. Gottlieb & H. Ezer (Eds.), Perspective on health, family, learning, & collaborative nursing: A collection of writings on the McGill Model of Nursing (Pre-publication ed., pp. 277-286). Montreal, QC: McGill University School of Nursing. (Original work published 1984)

Hanchett, E. S., & Clarke, P. N. (1988). Nursing theory and public health science. Is synthesis possible? Public Health Nursing, 5(1), 2-6.

Holden, G. (1991). The relationship of self-efficacy appraisals to subsequent health related outcomes: A meta-analysis. Social Work in Health Care, 16(1), 53-93.

Hughes, J. R. (1995). Effects of health care reform on helping relationships. In M. J. Stewart (Ed.), Community nursing: Promoting Canadians' health (pp. 532-555). Toronto, ON: W. B. Saunders Canada.

Kendall, S. (1993). Do health visitors promote client participation? An analysis of the health visitor-client interaction. Journal of Clinical Nursing, 2, 103-109.

Kirkhart, K. E., & Ruffolo, M. C. (1993). Value bases of case management evaluation. Evaluation and Program Planning, 16, 55-65.

Labonte, R. (1994). Health promotion and empowerment: Reflections on professional practice. Health Education Quarterly, 21(2), 253-268.

Laffrey, S. C., Renwanz-Boyle, A., Slagle, R., Guthmiller, A., & Carter, B. (1990). Elderly clients' perceptions of public health nursing care. Public Health Nursing, 7(2), 111-117.

Latter, S., Macleod Clark, J., Wilson-Barnett, J., & Maben, J. (1992). Health education in nursing: Perceptions of practice in acute settings. Journal of Advanced Nursing, 17, 164-172.

Lauri, S. (1994). Health promotion in child and family health care: The role of Finnish public health nurses. Public Health Nursing, 11(1), 32-37.

Luker, K. A., & Kenrick, M. (1992). An exploratory study of the sources of influence on the clinical decisions of community nurses. Journal of Advanced Nursing, 17, 457-466.

Machen, I. (1996). The relevance of health visiting policy to contemporary mothers. Journal of Advanced Nursing, 24, 350-356.

Macleod Clark, J., Franks, H., Maben, J., & Latter, S. (1997). The Developing Quality Indicators Project. Health Promotion in Primary Health Care Nursing. Phase 2: Final Report. London, UK: Health Education Authority.

Mahler, H. (1978). Action for change in nursing. Geneva: World Health Organisation.

Neufeld, A., & Harrison, M. J. (1995). Nursing diagnosis for aggregates and groups. In M. J. Stewart (Ed.), Community nursing: Promoting Canadians' health (pp. 475-492). Toronto, ON: W. B. Saunders Canada.

Olds, D. L. (1992). Home visitation for pregnant women and parents of young children. American Journal of Diseases of Children, 146, 704-708.

Olds, D. L., & Kitzman, H. (1990). Can home visitation improve the health of women and children? Pediatrics, 86(1), 108-116.

Pawson, R., & Tilley, N. (1997). Realistic evaluation. London: Sage.

Qualitative Solutions and Research. (1996). User's guide for QSR NUD*IST (3.0.4 for PC/Windows). Thousand Oaks, CA: Sage.

Reutter, L., Field, P. A., Campbell, I. E., & Day, R. (1997). Socialization into nursing: Nursing students as learners. Journal of Nursing Education, 36(4), 149-155.

Rodger, G. L., & Gallagher, S. M. (1995). The move toward Primary Health Care in Canada: Community health nursing from 1985 to 1995. In M. J. Stewart (Ed.), Community nursing: Promoting Canadians' health (pp. 37-58). Toronto, ON: W. B. Saunders Canada.

Shannon, V. (1997). Creating a structure to support the McGill model. In L. N. Gottlieb & H. Ezer (Eds.), Perspective on health, family, learning, & collaborative nursing: A collection of writings on the McGill Model of Nursing (Pre-publication ed., pp. 308-311). Montreal, QC: McGill University School of Nursing. (Original work published 1985)

Sidani, S., & Braden, C. J. (1998). Evaluating nursing interventions. A theory-driven approach. Thousand Oaks, CA: Sage.

Stewart, M. J., & Langille, L. L. (1995). Primary health care principles: Core of community health nursing. In M. J. Stewart (Ed.), Community nursing: Promoting Canadians' health (pp. 62-88). Toronto, ON: W. B. Saunders Canada .

Wald, L. D. (1915). The house on Henry Street. New York: Henry Holt.

Wallace, C. L., & Appleton, C. (1995). Nursing as the promotion of well-being: The client's experience. Journal of Advanced Nursing, 22, 285-289.

Wallerstein, N. (1992). Powerlessness, empowerment, and health: Implications for health promotion programs. American Journal of Health Promotion, 6(3), 197-205.

World Health Organisation. (1978). Primary Health Care. Report of the International Conference on Primary Health Care, September 6-12, 1978, Alma-Ata, USSR. Geneva: Author.

World Health Organisation, Health and Welfare Canada, & Canadian Public Health Association. (1986). Ottawa Charter for Health Promotion. An International Conference on Health Promotion. Ottawa, ON: Author.

ATTACHMENT 1

Areas for Potential Advocacy by Public Health Nurses

Early hospital discharge

Not all mothers in this study were happy with early discharge. In general, early discharge is considered less desirable if the mother is feeling overwhelmed (e.g. due to long labour, lack of support in the home), is going home alone with her baby and is fearful, or if the baby has to stay in hospital, requiring the mother to constantly go back and forth to hospital for feedings. A case should be made for allowing some mothers to stay in hospital an additional 24 hours or longer in some circumstances. A determination must be made as to whether early discharge in all cases is consistent with a client focussed or system focussed model of service delivery.

Hospital services, rules and practices

A few clients commented on the "inhospitable" *climate* in hospitals ("breast feeding was almost forced upon me . . . it was like every hour they'd bring him and 'here, you deal with it'); rigid *rules* ("I don't want to have to push her in the bassinet. I want to be able to hold her, and they wouldn't let me do that"); *lack of attentiveness* of nurses ("no one seems to want to tell you what's going on with your child". . . " It was such a hassle to ask someone to get diapers, I just supplied my own"); uncaring *environment* ("the nurses were bags. If the personal care was in the hospital, I would have stayed, but there was no comfort there"); and *lack of education* ("that's no place to learn how to breast feed your child". . . ." I don't think they watched me close enough, they'd come over and put her on me, I didn't know what I was doing . . . when I got home I didn't know what to do"). In a few instances, clients who probably should have stayed in hospital longer chose to go home because of the lack of care or comfort provided. If the hospital environment is to be made more conducive to meeting client needs, feedback about negative client experiences could be given to hospitals, to enable them to make improvements where possible.

External agency policies

Clients (and sometimes nurses) commented on external agency policies or practices that were problematic. For example, the limited hours of service provided through the Bridges program was seen as insufficient to truly address client needs in some instances. An ESL program required that a new lactating mother return to class within eight days of delivery. Some clients commented on the desirability of having the public health nurse act as an intermediary between the client and her physician (who was sometimes not perceived as easy to approach).

Unmet needs/wants

There were several comments related to the need for "Baby Talk" or similar parenting classes designed specifically for multiparous women. At present, mothers feel "out of place" if they attend sessions at which participants are primarily first time mothers. It was interesting that of the many clients who indicated they would likely attend "Baby Talk" classes when first interviewed, none had actually acted on that by the last interview. It appears that the time at which classes are offered, and the content or structure of classes (about which mothers learn through word of mouth) may act as a deterrent to attendance. It would be advisable to solicit input from clients about their preferences in relation to such classes, since interest appears to be high initially but factors that are unknown to the researcher appear to impede later attendance.

One client identified a desire to have public health nurses provide classes on first aid, specifically targeted at safety hazards for infants and toddlers; another noted she would appreciate having information about access to competent baby sitting services that could be "rubber stamped" by the health centre (she felt very uncertain about responding to ads in the newspaper, and wanted to access a safe and competent service for her children).

Two teenage mothers commented on the difficulty they had in accessing bus and milk coupons (during pregnancy and after childbirth). One wondered whether it would be possible for the health centre to mail the milk coupons to her, but had not asked. Lack of transportation to clinic acted as a deterrent in accessing services for some young mothers. There was also some indication that the structure (e.g. time, content) of Health for Two meetings made the service inaccessible or inappropriate to some ("I never went . . . because at first I was in school, and then after that, I didn't have a way to get there. . . . You like just talk to other people that are pregnant anyway, like it's just a support group).

As previously noted, some clients would have liked to establish contact with a public health nurse prenatally, and to have had the opportunity of maintaining a relationship with the same nurse after childbirth.

By the time the last interviews were conducted, all but two of the infants had completed their initial immunisation series (the other two had a scheduled appointment for the third visit). Several comments were made in relation to the Well Child Clinics (WCC). For some clients, there was little difference in perception about the quality of the WCC versus the Postpartum Program. They felt the clinic provided an opportunity to have questions answered in a friendly and welcoming environment. A few clients were dissatisfied with lengthy waiting periods, particularly mothers who had an older child. They were concerned that nurses did not recognize how difficult it was for the older child to sit quietly awaiting the "family's turn." It was suggested that more toys should be available to distract the child, or that "baby sitting" be provided. Some clients resented the fact that nurses asked a lot of questions that were perceived either as unnecessary or repetitive over the course of several visits. At least one mother commented that hours of service were not convenient to people in the work force, and recommended more evening clinics or slightly longer hours of operation (e.g. to 1900 hours). Other comments related to: 1) the lack of a family focus in WCC; 2) the desirability of being able to see the same nurse on all three visits (they just put them down on the scale, they don't say 'well, she's doing better than last time or she's doing worse, or she's doing the same.' They just don't take the time to talk to you at all"); and 3) the need to be more sensitive to mothers' needs for privacy ("I didn't like weighing and measuring in the middle of the room, with everybody watching" . . . "more like weighing fruit at the grocery store than your baby, you know").

Common Physiological Concerns and Questions

Infant problems

- behaviour (e.g. how much crying is normal, is twitching normal)
- skin colour (what to do if baby turns blue, is jaundice excessive, how do I know?)
- breathing (is heavy breathing normal? does stuffiness mean allergies?)
- bleeding from the cord, from stools (when is that normal, when is it not?)
- cord and circumcision care (how much bleeding from circ is normal, for how long?)
- when should I call for help if there is bleeding from the circ or from the cord?
- how much sleeping is normal? when does it change?
- nutritional information, during the first few weeks and over the first year
- how do I know that the bilirubin level is within acceptable limits? why does it rise?
- is there a risk if there were complications at birth (eg. meconium staining, low Apgar)
- SIDS
- how do I bathe the baby (a bath demonstration should be offered to every mother)
- what do I do if the baby has been exposed to someone who is sick (e.g. with a cold)
- infant and toddler safety (car seat, crib, safety hazards in the home)

Breast Feeding Issues

- for how long does frequent feeding last (especially through the night)
- is it normal for regurgitation to occur after feedings (how much, for how long)
- how does my diet affect the baby? If I'm eating junk food, should I stop breastfeeding?
- what happens if I don't have any appetite?
- what kinds of problems (suck, positioning) could occur later, even though none now?
- what happens to breast feeding if I supplement with formula?
- when should I pump, how often if I am not breast feeding regularly?
- what kinds of illnesses in infant or myself might force discontinuation of breast feeding?

APPENDIX A

Literature Review

LITERATURE REVIEW [1]

Introduction

Current attempts to reform and restructure health care systems attest to the fact that technological innovation and other advances in illness care during the latter half of this century have not been highly successful in improving population health beyond the level achieved through environmental and communicable disease control measures initiated in earlier decades. By the early 1970s, it had become clearly evident that the health care system itself was only partly responsible for "producing" health (Lalonde, 1974), and that spending more and more money on institutional care would do little to enhance overall population health status. Within the cost constraint environment of the 1990s, attention has increasingly focussed on the need to demonstrate accountability in health care, that is, on explaining health care programs and expenditures on the basis of results achieved. Furthermore, there is an expectation that those results will reflect relevance, acceptability, and accessibility of programs to recipients.

Measuring program effectiveness requires *a priori* specification of what the program aims to do (expected outcome), how it will be done (process), by whom, over what period of time, at what cost (structure), and in what manner (quality). Unless all of these elements are part of the evaluative process, it is difficult, if not impossible, to determine whether the outcomes achieved were in fact related to health care activities, or were merely serendipitous. Clearly, monitoring program and provider effectiveness in health care is a complex task. If we are to demonstrate the effectiveness of health care services, it is important that we explicate the linkages that exist among health needs, provider and client actions, and health outcomes.

This literature review centres on some of the issues which must be considered in measuring provider or program effectiveness in health care. The intent is merely to provide some rationale for the study design, and selection of the theoretical model which underpinned the study. The first section elucidates the conceptual approach taken in considering the domain of health for the purpose of this study. The next section situates nursing generally, and public health nursing specifically, within that context. Next, issues and challenges related to measuring the effectiveness of nursing practice are discussed. A review of relevant effectiveness research in public health nursing follows. Finally, issues related to program evaluation are presented.

The Domain of Health

Defining Health

The importance assigned to health, and its interpretation, are a function of time, circumstances and societal values (Kass, 1978). In ancient Greek terminology, two distinct terms were used to define health - *hygeia*, which means a "well way of living," and *euexia*, which translates as "good habit of body" (Keller, 1981, p. 44). The English origins of the word health reflected wholeness, well-being, vigor, and soundness of mind and body (Kass, 1978; Keller, 1981). From a historical perspective, "the word health originated as a positive state, devoid of the idea of illness" (Keller, 1981, p. 45). The English emphasis on wholeness implies self-sufficiency and independence, whereas the Greek terms stress functional ability. Both derivations accentuate the normative aspect of health as "a state of being that reveals itself in activity as a standard of bodily excellence or fitness, relative . . . to some extent to individuals, recognizable if not definable, and to some extent attainable" (Kass, 1978, p. 90). Although health may be *observed* primarily as a consequence of bodily appearance or functioning, wholeness implies that health is more than a function of the body and its parts, and that the psyche and the social environment contribute in important ways to the expression of health. Personal responsibility for nurturing and maintaining health cannot be denied, since health is influenced by temperament, habits, and lifestyle (Kass, 1978).

---

[1] The literature review contained in this appendix is provided as background to support the study design, methods and procedures. Literature relevant to emerging findings has been integrated within previous chapters.

If health is defined as well-being, vigour, or wholeness it follows that *non-health* would be determined by dissatisfaction with life circumstances, want of energy, or lack of a sense of integrality. Since these "symptoms" are not readily observable by outsiders except as they are expressed in objective signs, such as inability to perform daily tasks or fulfill social roles, subjectivity becomes an essential component of the assessment of health. But as Kass (1978) notes, the fact that health is partly defined along a subjective dimension does not reduce it to a socially constructed, or wholly contextual, concept. Just as disease may occur in an individual who is unaware of its presence, absence of health can be ignored or overcome by change of circumstance or corrective action. The opposite of health is non-health, not disease. Health exists as something in its own right, not as something purely relative to the absence of pathology, meaningful only in terms of the value ascribed to it by society. What changes with time and social policy, however, is the importance which society assigns to the *pursuit* of health (Kass, 1978).

Although health and disease exist as separate entities, and may therefore co-exist, modern society has tended to confound their boundaries. Health has largely been defined in terms of structural and functional integrity, implying freedom from pathology, or along a continuum ranging from high level wellness to poor health, and to death as an extreme (Tripp-Reimer, 1984). In both of these models, health and disease are viewed as opposites. The eudaimonistic model of health (Smith, 1981) which defines health in terms of self-realization, achievement of well-being and contentment is more closely aligned with the historical view of health, but has been criticized for its lack of operational precision and its exclusion of the structural and functional dimensions of health (Kemm, 1993). The tendency to juxtapose health and disease is reflected in the use of morbidity and mortality data, and other indices such as disability-free days and activities of daily living, as measures of population health status. Inherent in this negative approach (Bergner, 1985; Kemm, 1993) to the conceptualisation of health is the expectation that the health care system should assume major responsibility for improving the health of people. Furthermore, this negative view, often referred to as the bio-medical model of health (Doherty & Campbell, 1988), focusses attention on the treatment and restorative aspects of health care, and away from prevention activities (Patrick & Bergner, 1990). This is inconsistent with the promotion of health, in which the concept of "positive health" plays a central role (Kemm, 1993; Patrick & Bergner, 1990), and consideration of psychological and social influences are as important as biological factors in the assessment of health or illness.

Describing Health

Health systems reform in the 1990s reflects an awareness that despite tremendous growth in health care expenditures over the past thirty years, there has been relatively little improvement in traditionally measured health outcomes such as mortality and morbidity rates, and life expectancy (Angus, Auer, Cloutier, & Albert, 1995). One of the key principles driving reform of the health care system is "that there is more to health than health care" (Health Canada, 1994, p. 9). A major challenge in developing policies and setting priorities for a reformed health care system is the selection of appropriate indicators of "positive health," which at present are more elusive than "undesirable health states" such as disease, disability, or distress (Kemm, 1993). A starting point in developing an approach to the measurement of *health* is to reduce the complexity of the construct by identifying and describing its various dimensions (Bergner, 1985; Kemm, 1993).

Conceptually, health can be subdivided into physical, mental, and social *dimensions* (World Health Organisation, 1947) each of which has both objective (i.e. externally derived criteria) and subjective (personal reference point) components which can be *described* quantitatively, or qualitatively (Kemm, 1993). Objective physical descriptions of health include inherited characteristics, biochemical, physiologic or anatomic conditions (e.g. disease, disability and handicap), as well as functional capacity (Bergner, 1985; Kemm, 1993). Bergner (1985) would add to this "the health potential of the individual, which includes longevity, functional potential, and the prognosis of disease and disability" (p. 698). Subjective expressions of physical health may incorporate such symptoms as headache or pain. Intelligence and behaviour are examples of the objective component of mental health, while expressions of feelings and emotions reflect the subjective aspects. Social health would be described subjectively through expression of feelings of belonging, of being valued (Kemm, 1993). Although network size and density, and quality and quantity of social interactions would be considered objective descriptions of social health by some (Orth-Gomer & Unden, 1987; Kemm, 1993), Bergner (1985) argues that these are factors that affect health, and which must be distinguished from the "dimensions that *are* health" (p. 698). Personal factors such as psychological traits, problem solving ability, and coping skills are further examples of factors which may have a direct impact on health, but which should not be confused with health as a state of being. Other factors which may affect health status include societal or environmental factors, and availability and quality of, as well as access to health care (Bergner, 1985; Doherty & Campbell, 1988).

In addition to identifying and describing the dimensions of health, another phase in the assessment of health involves *evaluation*, which can also be carried out using objective or subjective criteria. Objective assessment involves "evaluation by an observer against external criteria and norms" while subjective evaluation involves assessment of the "individuals [sic] own perceptions of normality" (Kemm, 1993, p. 130). To date, the subjective perspective has seldom been incorporated in the selection of health status indicators. Much of the focus of health measurement has centred on negative health, and little attention has been given to defining and describing indicators of positive health. This in part is due to the fact that health promotion and disease prevention as primary strategies for improving population health status have only just recently emerged on the political agenda. As a consequence, policy (program planning and evaluation) and practice research in health outcomes has tended to focus on indicators such as reduction in illness, increased life expectancy, or improved functioning (reflecting funding priorities to some extent), rather than on more positive indicators such as increased stamina, well-being, resilience, and hardiness (Patrick & Bergner, 1990).

Explaining Variation in Health Status

With the shift from infectious to chronic diseases as major causes of morbidity and mortality in the latter half of this century has come the recognition that the "one-cause/one-disease/one-treatment approach" (Doherty & Campbell, 1988, p. 14) cannot sufficiently account for variations in health and disease patterns. The interrelationship among human biology, environment, lifestyle and the health care system itself (Lalonde, 1974) has become increasingly apparent. The complex interplay among these factors is highlighted in recent national, provincial and regional strategies for improving population health (Alberta Health, 1995; Capital Health Authority, 1994; Health Canada, 1994). Furthermore, the recent emphasis on primary health care as the framework within which health care policy should be developed reflects acknowledgement that social and environmental factors are as influential in determining health as are lifestyle choices and personal characteristics (Health Canada, 1994). Accordingly, participation of individuals and communities is sought in identifying barriers to health and in selecting solutions to health problems, as a means of enhancing self-reliance and self-determination (Collado, 1992).

Although the linkages among individual, social and environmental factors and health are not fully understood, it is clear that no single factor or set of factors can account adequately for differences in health status among individuals of similar or different social classes (Haan, Kaplan, & Syme, 1989). It is likely that understanding the source of variations in health will require the development of models that allow *simultaneous* examination of "the physical, economic, social, and psychological demands placed upon individuals by their environment while relating these same demands to the availability, quality, and nature of the resources that individuals can command in response to them" (Haan, Kaplan, & Syme, 1989, p. 105). The bio-psycho-social, or ecological, model of health reflects an understanding that the context for assessment of individual health must incorporate the family and social group within which health values, attitudes, beliefs, and behaviours develop (Doherty & Campbell, 1988). This is consistent with the precepts of social learning theory which postulates that individuals' patterns of behaviour are learned and regulated by a complex interplay of internal and external determinants (Bandura, 1971). Social environments, including such factors as parental nurturance (Bunker, Gomby, & Kehrer, 1989), parental education, culture, and health behaviours (Mechanic, 1989a) play a significant role in determining individual health status.

Social Determinants of Health Behaviour

From a social learning theory perspective (Bandura, 1971) health values, attitudes and behaviours are *acquired* and *maintained* as a result of cognitive processes involving self-esteem, self-reinforcement and self-concept. Although cognitive processes also mediate behaviour *change*, success or mastery in achieving a desired level of performance appears to be the principle vehicle by which new behaviours become established, and customary ways of feeling, thinking, and doing are replaced (Bandura, 1977; Bandura, Adams, & Beyer, 1977). The desire for and anticipation of future beneficial outcomes (or averted difficulties), as well as negative discrepancies between current performance and personal standards provide incentives (i.e. motivation) for initiating and persisting in a course of action (Bandura, 1977). In addition to the expectation that certain actions will lead to given outcomes, however, motivation entails a belief in one's ability to perform the required behaviour. "Under conditions in which people differ significantly in capabilities and motivation, skill and incentive factors will contribute to variance in performance" (Bandura et al., 1977, p. 138). Thus Bandura (1977) differentiates between *outcome expectancies* and *efficacy expectations*, noting that behaviour is unlikely to change if individuals seriously doubt their ability to perform the activities necessary to effect change (i.e. to cope), even when they fully understand the relationship between a certain course of action and the desired outcome. Perceived self-efficacy will influence the degree to which individuals are willing to undertake and persist in specified activities or place themselves in potentially threatening situations or settings (Bandura, 1982). The concept of *self-efficacy* is of particular relevance to understanding the source of variance in health outcomes among individuals with similar access to health information and services (Strecher, DeVellis, Becker, & Rosenstock, 1986).

It is important to note that self-efficacy is not a global personality trait, but rather, a contextual variable which is influenced by perceived ability to function in particular situations (Bandura et al., 1977). Self-efficacy can only be judged in relation to the specific behaviour with which it is associated (Bandura, 1977). Assessment of self-efficacy in relation to a given situation is important, since the information conveyed through modelling or persuasion may be different than that which is processed and internalized by recipients, each of whom may differ in "types and amounts of efficacy-relevant experiences" (Bandura & Adams, 1977, p. 305). Individual reports of perceived self-efficacy are better predictors of subsequent behaviour than is successful task performance (Bandura, 1982). One means of enhancing individual or collective perceived efficacy is to encourage the setting of explicit proximal goals which foster gradual development of skill and competence, and provide opportunities for immediate reinforcement when distal goals appear too remote and unattainable to sustain interest and effort (Bandura & Schunk, 1981).

Social learning theory provides a key to understanding how perceptions of self-efficacy ("I can do this"), as well as interest ("I want this"), mediate the relationship between knowledge and action (Schunk & Carbonari, 1984). Coping strategies and expectations of mastery are largely acquired as a consequence of the emotional (values, attitudes) and cognitive (knowledge) environment of the family, which determines whether the standards of performance necessary for successful adaptation to later life challenges are modelled. Much of the variation in health status *not* explained by poverty, educational attainment, or social inequity (Mechanic, 1989a) can be attributed to the influence of the family in promoting self-esteem and coping competence (Mechanic, 1989b). This has important implications, since it suggests that targeting young families for health promotion efforts may have substantial long term pay-offs in improving overall population health status.

In the health care field, research involving self-efficacy has focussed on lifestyle practices that are relatively intractable to change, such as smoking (Brod & Hall, 1984; McBride, Pirie, & Curry, 1992; Stanton, Dittmar, Wooldridge, & Kuo, 1992), weight control (Epstein, McKenzie, Valoski, Klein, & Wing, 1994), and exercise maintenance among chronically ill individuals (Wigal, Creer, & Kotses, 1991). Self-efficacy has been found to correlate with self-care in individuals with epilepsy (Dilorio, Faherty, & Manteuffel, 1992) and diabetes (Padgett, 1991).

The construct has proved useful in evaluating preventive health programs targeted at children (Parcel et al., 1995) and teens (Lawrance, Levy, & Rubinson, 1990). In an integrative review of research literature published between 1983 and 1991, Gillis (1993) found that self-efficacy was the strongest predictor of a health promoting lifestyle, when compared with other frequently studied determinants including social support, self-concept, definition of health, and perceived benefits of or barriers to, a health promoting lifestyle. Research has demonstrated that individuals high in self-efficacy are more apt to seek preventive care and to initiate treatment than those with low self-efficacy (Hickey, Owen, & Froman, 1992).

Assessment of self-efficacy has consistently proved useful as a means of assisting individuals to effect desired change, when direction and guidance have been tailored to the goals which people set for themselves (Jensen, Banwart, Popkess-Vawter, & Perkins, 1993). In considering the potential utility of self-efficacy theory in guiding professional practice, Holden (1991) points out that improvements in client self-efficacy can be used as a measure of practitioner effectiveness if it is possible to rule out other explanations for the change in efficacy. He acknowledges that appraising client efficacy prior to initiation of treatment can help focus interventions, a view that is supported by others who have demonstrated the diagnostic value of self-efficacy scales in targeting education to specific behaviours perceived by respondents as areas of low efficacy and high vulnerability (Epstein et al., 1994; Jensen et al., 1993; Lawrance et al., 1990; Oetker-Black & Taunton, 1994). It is clearly important to take individual differences into account in implementing and evaluating health promotion programs (Epstein et al., 1994). Caution is nonetheless warranted against focussing too narrowly on assessment of client self-efficacy, to the exclusion of other interpersonal and environmental factors which also play a significant role in determining behaviour (Holden, 1991).

Approaches to Improving Population Health

It is useful in considering strategies for improving health to distinguish between health education and health promotion, which are complementary, but distinctive approaches (Green, 1984). The first is aimed at behavioural change, while the second addresses fundamental social change, incorporating health education as but one of many strategies. Both are subsumed within population health approaches targeted at the broad determinants of health, which include a) income and social status; b) social support networks; c) education; d) employment and working conditions; e) physical environments; f) biology and genetic endowment; g) personal health practices and coping skills; h) healthy child development; and i) health services (Health Canada, 1994). Hamilton & Bhatti (1996) have coined the term "population health promotion" to describe an approach to improving health which combines "action on the full range of health determinants by means of health promoting strategies" (p. 7).

Lifestyle, that is people's behaviour, has dominated the health promotion agenda in recent years, but ecological strategies for promoting health are now gaining increasing attention (Brezlow, 1996). This shift has occurred partly in recognition that lifestyle change programs to date have largely attracted the interest of people who tend to be relatively healthy, educated, and employed in well paid occupations. As a result, many intractable health risks, including exposure to community violence, teen pregnancy, obesity, and substance abuse remain highly prevalent, primarily among vulnerable populations (Stokols, Allen, & Bellingham, 1996). More data are needed about the factors which predispose individuals to feeling hopeless or powerless in taking control over the life circumstances which undermine their motivation to take action toward improving health.

The emergence of health promotion as a framework for achieving improved health reflects an awareness that behavioural change at the individual, family, or community level is insufficient to address the entire range of factors that determine health. Organisational, environmental, economic and political reforms are needed to support changes in individual behaviours in order to promote health. Programs which aim at improvements in health outcomes must not only focus on educational approaches to changing health behaviours, but must also give due consideration to the full range of supports which are needed to encourage and sustain those behaviours (Green, 1984). This ecological approach to change has been termed *empowerment*, a "construct that involves people assuming control and mastery over their lives in the context of their social and political environment . . . [and] that applies to interactive change on multiple levels: the individual, organisation, and community" (Wallerstein, 1992, p. 198). Inherent in the concept of empowerment are perceived self-efficacy and desire for change. Empowerment can thus be conceptualised as a mediating strategy for improving health outcomes (Wallerstein, 1992). Within this framework, health care interventions would focus on relating the physical, emotional, and social demands placed upon individuals to the resources which are available to them in making health choices (Haan et al., 1989). Emphasis would then be placed on the elaboration of valid and reliable indices of the link between client needs, provider actions, and health outcomes, without which the effectiveness of interventions cannot be evaluated (Neufeld & Harrison, 1994). As Bandura (1990) notes, in controlling behaviour

> What people need is sound information . . . guidance on how to regulate their behavior, and firm belief in their personal efficacy to turn concerns into effective preventive actions. Responding to these needs requires a shift in emphasis from trying to scare people into healthy behavior, to empowering them with the tools for exercising personal control over their health habits (p. 11).

Empowerment at the individual level combines (1) self-efficacy, (2) a sense of being in control of one's life circumstances, and (3) knowledge of the process of participating in, and influencing institutions and decisions. Unless the social, economic, and political context within which individuals exist are incorporated in the assessment of personal competence, there is a risk that efforts to empower will fail. Empowerment begins with asking people to talk about their health related experiences. Unless individuals are meaningfully involved in interpreting their own concerns and issues, health delivery strategies and programs risk being irrelevant, alienating people from a potential source of help (Labonte, 1994).

Respectful services which focus on providing needed resources in a supportive, non-controlling manner and which are of practical usefulness to recipients reflect an empowering approach to service delivery. Effective collaboration in working with clients toward achievement of a sense of mastery or control over health related behaviour begins with clarification of mutual purpose and goals with respect to the provider-client interaction, and specification of the activities that will be undertaken in working toward desired change (Labonte, 1994; Plough &

Olafson, 1994). The effectiveness of goal setting as a strategy for achieving health behaviour change has been empirically demonstrated (Blair, 1995; Strecher et al., 1986), and changes in client behaviour that are linked to the setting of explicit goals have been suggested as a useful means of evaluating health care outcomes (Luker, 1978). Other strategies for enhancing perceived coping and sense of competence include provision of factual knowledge, skills training, modelling, reinterpretation of cues related to coping abilities, persuasion, and mobilization of social support (Bandura, 1990; Gonzales, Goeppinger, & Lorig, 1990; Jensen et al., 1993; LaMontagne, Johnson, & Hepworth, 1995).

Discussion

Until recently, health care systems have been primarily centred on disease prevention (e.g. immunisation programs) or treatment and rehabilitation following episodes of illness. In this medical model of health care delivery, the determinants of health are conceptualised as biological agents or lifestyle choices which undermine physical or emotional well-being. The success of health care programs is measured in terms of improvements in physical health, functional ability and resumption of social roles. Morbidity and mortality data and functional indices (e.g. activities of daily living, disability days lost) provide the yardstick by which population health is assessed. In this model, recipients of health care services are either hapless victims of biological forces over which they have little control, or largely responsible for their own demise by making poor lifestyle choices. Variations in health associated with gradients in social status are assumed to reflect differences in lifestyle and in exposure to environmental hazards. In this model, the role of providers is to apply expertise in the curative or rehabilitative aspects of health care, in educating recipients about the need for and means of achieving lifestyle changes, or in advocating for changes in the physical environment as a means or reducing the risk of exposure to hazards. The client is a relatively passive recipient of the services of health care experts, but the assumption is made that if the prescribed corrective action is taken, the outcome will likely be satisfactory. The success of interventions is linked to the degree to which the "diagnosed" problem has been resolved, and failure is often considered to be attributable to lack of compliance with the recommended regimen. Diagnosis is a professional judgment about the cause or causes of the health problem. The main concerns with the medical model of health care delivery are its failure to make significant inroads in improving overall population health status despite dramatic advances in technology and exponential increases in financial expenditures, and the inability to explain why considerable variations in health status continue to occur among individuals with similar access to health care resources. It has become amply evident that professional knowledge and expertise applied to the solution of health problems by themselves are insufficient to achieve the gains in population health that are both desirable and achievable with available resources.

The ecological approach to health care delivery reflected in recent strategic documents highlights the complexity involved in any effort to improve population health. The ecological model delineates the dual role of provider and recipient in formulating plans for improving health, and directs attention to the need for an integrated approach to health which will require the involvement of sectors outside the traditional health care system. What is perhaps most significant in considering new strategies for improving population health is the importance of understanding how and why beliefs, values and attitudes about health may enhance or impede efforts to change health behaviours. Social learning theory, and particularly the concept of self-efficacy, provide a means for beginning to isolate some of the factors which may explain variations in health status, and increase our knowledge about appropriate mechanisms for increasing competence related to health behaviours. It is assumed that individuals who feel in control of the situations which they face on a daily basis, and who have confidence in their ability to adopt behaviours which will enhance their sense of well-being, are less likely to experience physical and emotional dysfunction. If that is the case, indicators of well-being (i.e. positive health indicators) should provide proximal measures of success in achieving the more distal goal of reducing overall morbidity and mortality. The role of providers in this wellness model of health is thus to facilitate the development of skills, knowledge, and attitudes which will enhance feelings of competence in managing day to day life situations, in a manner that contributes to overall well-being.

Nursing and Health

Why Disciplinary Research In Health?

One impediment to the assessment and subsequent improvement of population health is the lack of information systems from which can be derived accurate descriptions of the relationship among socio-economic, lifestyle, and environmental factors, and health. Information systems must provide data "not only about health but also about the links between health and the factors that contribute to it" (Black, 1995, p. 13). To measure the effectiveness of health care programs, it is important to know what client factors influence provider actions, and what interventions are effective in producing desired client outcomes (National Forum on Health, 1995). A comprehensive health information data base must meet three requirements. It should a) encompass a broad range of health-related concepts, b) provide information which builds from the level of the individual but can also provide data at the family, community or neighbourhood levels, and c) allow for longitudinal determination of relationships between client factors and health outcomes (Wolfson, 1995). Since our current data bases are far from complete, a priority in meeting knowledge needs for more effective health care delivery is to build information systems from the "service event level (i.e. a unique service, by a unique provider, to a unique recipient, at a unique delivery site, at a given time for a given cost with a specific outcome" (Alvarez, 1995, p. 17). Several disciplines may contribute to the achievement of health outcomes in any given health care episode, and it is therefore important to conduct disciplinary research to isolate the unique contribution of each member of the multi-disciplinary team, if any comment is to be made about the effectiveness of each provider or provider group.

The Nature of Nursing

Nursing, as a profession, is socially mandated to assume its role in identifying new strategies for achieving improved population health, and to develop within its members the skills and knowledge necessary to respond to emerging health needs (American Nurses Association [ANA], 1980). The object and philosophical underpinnings of the discipline of nursing are captured in the ANA (1980) statement that

> nursing helps to serve society's interests in the area of health. . . .

> Nursing practice has been health-oriented for more than half a century, partly because of its focus on individuals as persons and on the family as the necessary unit of service. In nursing so practiced, the current health movement was foreshadowed (p. 5). . . . One of the most distinguishing characteristics of nursing is that it involves practices that are nurtrative, generative, or protective in nature. They are developed to meet the health needs of individuals as integrated persons rather than as biological systems. . . . Nurses are guided by a humanistic philosophy having caring coupled with understanding and purpose as its central feature. . . . Nurses are committed to respecting human beings because of a profound regard for humanity. . . . Nursing care is provided in an interpersonal relationship process of nurse-with-a-patient, nurse-with-a-family, nurse-with-a-group (p.18).

The ANA's social policy statement clearly positions nursing within the context of a *health* care environment, and demands that holistic values be reflected in its substantive and syntactical structures. Furthermore, it identifies individuals within the context of their families, as well as groups, as the focal point around which nursing knowledge development is to occur. Since nursing has biological, psychological and social health as an end in view, the outcomes of nursing practice must reflect practitioners' contributions to promoting individual and family development during periods of transition or crisis (nurtrative function). There must also be evidence that nursing has influenced changes in health state or behaviour (generative function), in a manner that safeguards respect for individuals and families, and promotes self-reliance (protective function).

The interpersonal nature of nursing practice implies that nursing is an independent variable in influencing client outcomes (Lindeman, 1984), but the requirement that interactions be collaborative, with recognition and acceptance of clients' right to choice (ANA, 1980) points to the need to also consider the client role in achieving health outcomes. Since nursing's focus is the promotion of health and well-being within a framework that incorporates family and environmental factors, practitioners must be able to explain how decisions made in specific situations reflect the expectations, values, and circumstances of their clients. The concept of client centred care requires elaboration of the relationship between the uniqueness of clients, and nursing actions (Cox, 1982). The rationale for planning and selecting interventions in response to client needs can then be linked to evaluation of outcomes (Lindeman, 1984). The nursing profession must make explicit how and why it makes a contribution to improving population health. Research is the means through which that knowledge can be developed (Chalmers & Gregory, 1995).

The Purpose of Nursing Research

As noted by Schwab (1964), the process of inquiry has its origins in the substantive structure of a discipline, which determines the nature of the questions that are asked, the type of information that is sought, the method most appropriate to the generation of data, and the manner in which the data are interpreted and analysed. Scientific investigation is the means by which knowledge is updated or created.

In a practical discipline such as nursing, the aim of scientific inquiry is to assist professionals in the successful pursuit of the goals of practice. Scientific knowledge in nursing must therefore provide direction about the most appropriate means to be employed in achieving positive changes in population health status. This requires understanding of the physical, psychological and social determinants of health and illness, including knowledge about factors which contribute to differences in individuals' responses to health or illness situations (Donaldson & Crowley, 1978/1992). But having knowledge about factors which influence health does not imply knowledge of what to do in particular circumstances, of what options are available to achieve one's goal, or of what to avoid.

In the practice situation, both theoretical (know that) and practical (know how) knowledge is required. If the science of nursing is to guide the actions of nurses, there must be a direct link between the development of theoretical nursing knowledge and the attainment of the goals of practice. Theory provides a conceptual scheme whereby the relationships among client factors, nursing actions, and desired outcomes are made explicit. It enables nurses to describe and explain how and why certain nursing actions are likely to result in specified outcomes, and to predict the likelihood of achieving their desired objectives in light of extant circumstances (Meleis, 1991). Theory provides the framework for assessment of the effectiveness of nursing programs, by making explicit the interaction between the process of care and health outcomes (ANA, 1980; Lindeman, 1984). Given nursing's focus on the promotion of health, nursing theory should help to explain how nursing actions enhance client's abilities to make decisions about, and take actions to improve, their health (Cox, 1982). Nursing theory must also reflect the context in which practice is situated (Hamilton & Bush, 1988) and evaluated.

Theory in Public Health Nursing

The health promoting function of nurses is acknowledged in most conceptual models in nursing (Witter-DuGas & Knor, 1995), but the focus is predominantly on individuals seeking care for acute or chronic conditions. There is a lack of fit between current nursing theory and public health nursing's focus on primary prevention with families, aggregates and communities (Chalmers & Gregory, 1995). If public health nurses are to succeed in changing environmental conditions that influence population health, conceptual frameworks must explicate social, political and economic factors which, along with individual characteristics, determine the health potential of families and communities (Laffrey & Craig, 1995). The emphasis on accountability as the cornerstone of a reformed health system (Alberta Health, 1995) underscores the need for theory which can help explain and predict the health outcomes of public health nursing interventions and programs (Clarke, 1995).

Despite the importance of research and professional practice which are grounded in theory, little research in public health nursing is based on *nursing* theory, and public participation is seldom invoked in problem definition or data interpretation. Theory borrowed from other fields, such as epidemiology, is occasionally used in research conducted by community health nurses, but theories which address self-reliance are rarely reflected in those studies. Research with families and with the community as client is also neglected (Chalmers & Gregory, 1995).

The primary health care approach demands that more effort be made by health providers in empowering clients to assume control over personal, social, and political determinants of health. Since public health nursing is grounded in primary health care theory (Canadian Public Health Association [CPHA], 1990), research-based practice requires that public health nurses make explicit what factors impede clients from making healthy choices in matters relating to their health, and how nursing actions improve client capacity for achieving positive health outcomes. Furthermore, assessment of client needs, nursing actions, and client outcomes must be categorized from a *nursing* perspective, if public health nurses are to demonstrate their unique contribution to the achievement of population health (Clarke, 1995). Among nursing conceptual models, only two specifically address the intertwining of nursing practice and primary health care in their substantive structure. The models were conceived with community based practice in view, and it is noteworthy that both originated in Canada.

The McGill model, developed at the School of Nursing at McGill University, has as its underlying premise the belief that health is measured by the way in which individuals and families deal with everyday occurrences in family life, during periods of illness, crisis, transition, or wellness. The goal of nursing is to enhance individual and family coping, through acquisition of problem solving skills in dealing with health matters (Allen, 1982). The model is based on social learning theory. The McGill model evolved from concern about the predominance of the "medical model" in health care delivery during the 1960's. Its major proponent, Dr. Moyra Allen, envisioned a role for nursing as the point of entry to the health care system (Allen, 1982) for individuals and families who "showed signs of readiness to assume greater responsibility for their health and become increasingly involved in healthier lifestyles" (Gottlieb & Rowat, 1987, p. 52). In keeping with social learning theory, which postulates that behaviours, and hence health habits and beliefs, are learned from contact with close associates, the family is the unit of concern to the nurse (Allen, 1982). Nursing skills, knowledge, and practice are seen as distinct from, but complementary to, those of other members of the multi-disciplinary health team (Feeley & Gerez-Lirette, 1992).

Coping and self-reliance are also reflected in the model developed by Miriam Stewart (1990, 1993) of Dalhousie University, but mobilization of social support is proffered as the primary means by which nurses can influence health status. The conceptual framework is derived from a number of parent theories, among which are included coping, self-esteem, social support, and social learning theories (Stewart, 1990). The integration of social support in nursing is seen by Stewart as a way of overcoming the relative lack of attention to social determinants of health in most nursing theories. A primary focus of the model is the creation of new partnerships between the professional nurse, consumers of health care, and members of their lay support networks. The "expert" role of the nurse is eschewed and emphasis is placed on the consumer, and the client-environment domain. Individuals, families, groups or communities engage in partnership with the nurse in promoting and maintaining health (Stewart, 1993). Primary health care premises are inherent in the model (Stewart, 1990, 1995). Stewart's model identifies focal persons and their natural networks as the unit of concern to the nurse (Stewart, 1993).

Coping, health promotion and partnership relationships with clients are dominant features of both the McGill and Stewart models, but there is an inherent difference in the conceptual approach taken to defining health and nursing. In the McGill model health is viewed as a dynamic, multi-dimensional construct involving two salient processes - coping and development. Coping refers to the family's ability to function optimally in managing day to day health concerns, by identifying their problems, considering possible solutions, taking action, and evaluating their success in overcoming difficulties. Development involves setting life goals, and mobilizing individual, family, and community resources to the achievement of those goals (Gottlieb & Rowatt, 1987). The goal of nursing is to facilitate coping and development by exploring client concerns, and utilizing family strengths, potential, and resources in creating an environment conducive to learning about and acquiring healthy behaviours (Feeley & Gerez-Lirette, 1992; Gottlieb & Rowatt, 1987). The outcomes of nursing actions include improved health status, improved family problem-solving capacity, client satisfaction with problem resolution, and enhanced quality of life (Gottlieb & Rowat, 1987). Nursing outcomes are thus measured in relation to the degree to which the family achieves increased competence in acquiring and maintaining behaviours conducive to health.

The bio-psycho-social model of health underpins the Stewart model, but the social dimension of health predominates, and is evaluated by the degree to which focal persons have access to supportive networks, and are integrated within their community. Social support is considered instrumental in promoting positive health behaviours, preventing health problems, and enhancing coping during stressful periods (Stewart, 1990). Social support is viewed as a significant concept for nurses because of its influence on health status, health behaviour, and health services utilization. The goal of nursing is to mitigate the negative influence of deficient social networks by mobilizing support networks, or directly providing temporary support, during periods of need. Within the Stewart model, improvement of physical and mental health status is the desired outcome of nursing actions, but in most instances, it is the support network, rather than the nurse herself, who is primarily responsible for providing supportive interventions. The nurse plays a key role in consulting with the focal person's social network to promote the types of interactions that will enhance physical, psychological and social health, and promote positive health behaviours (Stewart, 1993).

The McGill and Stewart nursing models are useful theoretical frameworks for nurses working in primary health care settings. They focus heavily on primary prevention, acknowledge the essential role of clients in defining health problems and finding solutions to those problems, and highlight the importance of considering the full range of supports which are needed to encourage and sustain positive health behaviours. Self-reliance and the ability to exercise control over factors impeding health are strong features of the models. Although both conceptual frameworks direct attention to the interrelatedness among the social and physical environments and health, they each emphasize different approaches to improving population health. The Stewart model underscores the importance of social support networks, while the McGill model stresses personal and family competence, coping skills, and sense of control and mastery as key determinants of health. The choice of one model versus the other as the basis for research or practice will influence the selection of indicators used in measuring provider and program effectiveness.

Discussion

Nursing has a key role to play in developing new approaches to improving population health, approaches which recognize the essential role of clients as active participants, and which emphasize the positive view of health. Since its very beginning, modern nursing has been inextricably linked with health, as exemplified by the words of its founder, Florence Nightingale. "The same laws of health or of nursing, for they are in reality the same, obtain among the well as among the sick" (Nightingale, 1860/1969, p. xii). The work of Lillian Wald, the founder of the modern public health nursing movement (Wald, 1915, 1934), brings into question the accuracy of the phrase "a *new public health movement*" (World Health Organisation, Health & Welfare Canada, & CPHA, 1986, p.1) in describing recent efforts to achieve improved population health. Yet, nursing has not succeeded in making explicit the relationship that exists between nursing and health. This is due in part to the complexity involved in establishing linkages between nursing interventions and health outcomes, given the multi-dimensional nature of health and its determinants. It should also be recognized that the focus on measurement of outcomes is a fairly recent phenomenon (Lohr, 1988; Marek, 1989). But perhaps most importantly, the fact that the theoretical foundation for nursing practice is still in its formative stages (Chalmers & Gregory, 1995) has limited the use of integrated models incorporating structure, process, and outcome variables in research on the effectiveness of nursing (Jennings, 1991). Inability to establish that outcomes are predictably attributable to antecedent nursing actions limits the value of conducting research that is not grounded in a theoretical framework.

The lack of theory underpinning nursing practice is particularly problematic in public health, where the focus on primary prevention means that a need exists to intervene prior to the occurrence of health problems. Public health nursing theory must provide the basis for interventions tailored to the needs of specific target populations. This requires sound knowledge of the determinants of health, as well as of individual and social means for creating conditions that are conducive to health. If research in public health nursing is to make a significant contribution to the enhancement of practice, it must not "be individualistic and non-participatory, and neglect social and economic environments" (Chalmers & Gregory, 1995, p. 604). Methodological issues in measuring the effectiveness of public health nursing practice require special attention.

Measuring the Effectiveness of Nursing Practice

Defining Effectiveness

The burden of expenditures in health has prompted governments to demand that the costs, effectiveness, and quality of health care be clearly explicated. Despite numerous references to quality, effectiveness, and outcomes in most strategic documents, however, there is seldom any clarification of what is meant by those terms, nor of the process by which their achievement can be monitored or measured. Mark (1995) notes that health outcomes should be viewed as indicators of quality, the documentation of which must precede any assessment of effectiveness.

According to Donabedian (1988), quality in health care reflects the ability to achieve desirable objectives, generally specified as improved health status, using legitimate means. The means utilized to achieve given outcomes will vary depending on how health and the responsibility for its achievement are defined, as well as on the context within which health is assessed. The context, or structure within which services are delivered, determines the most appropriate level at which the assessment should be conducted. Examples of the level of assessment include study of the performance of practitioners rather than institutions, and of services received by individuals, as opposed to families or groups. The nature or content of services (e.g. prenatal classes) are another dimension of level. At any level of assessment, there must be a determination of how the methods employed are expected to contribute to achievement of specific outcomes, as well as the degree to which they are appropriate in light of alternatives and costs, acceptable to recipients, and ethical. Quality "is proportionate to the attainment of achievable improvements in health . . . [and] effectiveness is what is achieved as a proportion of what is achievable" (Donabedian, 1988, p. 175). Donabedian further differentiates between quality assessment and quality research. The former is defined as a first step in collecting the type of information that will contribute to selecting the best means possible to achieve desired ends in particular cases. Quality research, on the other hand, involves "the development and testing of methods for measuring the process and outcomes of care, for identifying and quantifying the structural characteristics of the settings in which care is provided, and for obtaining the information needed to accomplish these tasks" (p. 177).

In essence then, if we wish to know whether we have accomplished what we set out to do (effectiveness), we must first of all specify what it is that we aim to do (expected outcome), how we propose to do it (process), over what period of time and at what cost (structure), and in what manner (quality). Unless all of these elements are part of the evaluative process, it is difficult, if not impossible, to determine whether the outcomes achieved were in fact related to health care activities, or whether their occurrence was merely serendipitous.

Defining Outcomes

Outcomes are the end-results of the provision of care, and as noted by Lohr (1988), they direct attention specifically to patients' well-being, emphasizing individuals over groups, and "the interests of unique patients over those of society" (p. 37). As measures of the effectiveness of health care, traditional outcome measures such as death, morbidity, disability and discomfort are often limited by a lack of hard evidence that they are directly related to particular processes of care (Lohr, 1988). Outcomes in and of themselves can make no statement about health care unless they are known to be the consequence of that antecedent care. Simply measuring health status, well-being, functional ability, or any other state provides no concrete evidence of the effectiveness of interventions. To claim that a certain outcome would not have occurred in the absence of intervention, causal relationships between actions and their effects must be established, and there must be concrete evidence of a *change* in health status or behaviour, clearly attributable to a specific intervention (Community Health Information Systems Working Group, 1994; Donabedian, 1988; Lohr, 1988). Outcomes are an immensely complex construct, incorporating such characteristics as the dimension of health to which they pertain, how observable or measurable that is, when they should be measured, and how directly or indirectly they relate to the actual process of care (Lohr, 1988). Donabedian (1988) suggests that in evaluating health care, it is wise to include elements of each dimension of quality (i.e. structure, process, and outcome) in the assessment, since it is otherwise difficult to explain why outcomes depart from expectations.

Green (1985) argues that when health is defined in positive terms, it is inappropriate to restrict outcome measurement to an assessment of the direct contribution of health services to saving lives, removing or controlling symptoms, or preventing disease and injury. When health is viewed as a means to an end, rather than as an end in itself, measuring the effectiveness of preventive health services in terms of behavioural or environmental changes that will permit individuals to lead more socially and economically productive lives is the more reasonable approach. He suggests that in health services research based on a primary health care model, the variables targeted for short-term outcome measurement should be behavioural or performance variables, for which there is persuasive evidence of correlation with long-term health outcomes (e.g. disease or injury). Lifestyle or behavioural changes should be conceptualised in terms of gains in skills or knowledge which will ultimately increase capacity for self-reliance. In other words, self-efficacy is an "intermediate outcome of improved health practices or lifestyle" (Green, 1985, p. 802).

Issues in Measuring Nursing Outcomes

The focus on effectiveness, which characterizes the current health reform agenda, can be traced back to concerns arising from quality assessment and quality assurance activities during the 1970s. Unexplained variation in health services utilization, patient management, and health outcomes across geographic areas has been the primary stimulus for effectiveness research (Rettig, 1991). The continued quest to define what is effective in health care provides nurses with renewed opportunities to demonstrate the difference that nursing makes to client outcomes (Lang & Marek, 1991). The challenges involved in demonstrating improvement in those patient outcomes that are directly influenced by nursing are nonetheless somewhat daunting. Issues related to measuring effectiveness in nursing include the selection of relevant outcomes, the approach to measurement, the appropriateness of measurement tools, and the availability of databases as a resource to the measurement process.

Selecting Relevant Outcomes

What is fundamental to measurement is that client outcomes be clearly associated with antecedent *nursing* interventions, and this requires *a priori* explication of intended outcomes, while also allowing the possibility that unexpected outcomes may occur, and should be documented (Bond & Thomas, 1991). Explaining and predicting outcomes on the basis of deliberate interventions demands a theoretical approach to practice and measurement (Hinshaw, 1992; Waltz & Silvia, 1991). In accounting for outcomes, alternative factors which could explain results must be refuted. The question "Why did this occur?" must be convincingly answered (Polifroni & Packard, 1995).

Although a vast array of client outcomes may be used in health care evaluation, not all are appropriate for assessing the effectiveness of nursing. Mortality and morbidity measures are seldom useful as indicators of quality nursing practice, since their influence is confounded by such factors as the practices of other health care personnel, co-existing morbidity and differences in illness severity (Marek, 1989; Naylor, Munro, & Brooten, 1991). Similarly, since hospital length of stay (LOS) data are seldom linked to such other indicators of quality as readmission rates or return visits to physicians or emergency departments, their use is severely limited as measures of the process of care. Although LOS linked with post-discharge outpatient data has been used as a viable measure of the quality of nursing interventions (Naylor et al., 1991), its use is obviously restricted to nursing practised in certain types of settings.

Lang & Marek (1992) outlined a number of potentially useful outcomes for measuring the effectiveness of nursing, which they have collapsed into non exclusive categories describing physiological, psycho-social, functional, behavioural, knowledge, symptom control, quality of life, home functioning, family strain, goal attainment, safety, utilization of service, and patient satisfaction variables. Naylor et al. (1991) also highlight self-care, functional ability, social role or activities, mental status, stress, satisfaction with care, and caregiver burden as outcomes that may be of particular relevance to nursing. Given the vast number of measurable outcomes, what matters in selecting nursing sensitive measures is that the indicator variables are appropriate to the purpose of the study and the questions being asked (Bond & Thomas, 1991), and that a linkage is established between the process of care and its intended outcome. There is to date little research, in nursing or other health care fields, which has demonstrated causal relationships between interventions and outcomes (Marek, 1989), and establishing those linkages is a major priority in measuring the effectiveness of nursing practice (Griffiths, 1995; Jennings, 1991; Naylor et al., 1991; Sidani & Braden, 1998).

Approach to Measurement

Jennings (1991) suggests that the model used to guide client outcome research in nursing should be both comprehensive, and as parsimonious as possible. She recommends the use of an integrated model that addresses structural, process, and outcome components to reflect the complex reality of nursing care. She also highlights the importance of selecting outcomes that can be "broken into increments, each of which represents advancement toward more long-term outcomes" (Jennings, 1991, p. 63), given the longitudinal nature of many of the health outcomes that are influenced by nursing. She notes the importance of incorporating the clients' perspective of the acceptability of selected outcomes as measures of the quality and appropriateness of care, to avoid incongruity between provider and client notions. Lang & Marek (1992) note that in establishing the relationship of client outcomes to nursing process and organisational structure, it would be beneficial to reach consensus within the discipline regarding the naming and categorizing of variables. Over time, this would enhance the likelihood that the effectiveness of nursing could be demonstrated and compared across practice settings and geographic locations. To this end, they also urge that an explanation of the rationale used in selecting indicators which represent expected relationships among structure, process, and outcome variables be clearly delineated. Whether outcomes are assumed to be primarily linked to the nature of client needs, interventions, or site of care should also be noted (Lang & Marek, 1992).

Jennings (1991) urges that a clear operational definition of what constitutes a nursing intervention be explicated, since it is otherwise difficult to explain variance in outcomes in relation to antecedent care. Research has demonstrated that decision-making by experienced nurses in the practice setting is related to three dimensions of the structure of nursing intervention. These include the intensity and complexity of care required, and the focus of care (i.e. individual, family, system). It is suggested that linking assessment, diagnosis, and patient outcomes to these dimensions of intervention would enhance understanding of the decision-making process used by nurses in the practice setting (Tripp-Reimer, Woodworth, McCloskey, & Bulechek, 1996). Given the multi-dimensional nature of nursing interventions, issues such as the degree to which the intervention is clearly independent of the effects of other providers, how essential it is to the client's well-being, and how complex or mundane it is must be considered in measurement. Identification of the criteria which nurses use in selecting interventions is of considerable relevance to outcomes research (DeFreise, 1992). As well, determining which of several alternative intervention approaches is most likely to achieve intended results is fundamental to efforts to improve the effectiveness of nursing practice (Cherkin, 1992).

In terms of the structural component of assessment, Jennings (1991) cautions that the setting in which care is delivered, the dynamics of the setting, the competence of the provider, and the interaction among caregivers involved in service provision may all influence outcomes, and therefore should be addressed in a comprehensive measurement model. In assessing the structural aspects of the care setting, it is important to include comparison units to determine the degree to which the structure actually influences outcomes (Weisman, 1992). The complexity involved in outcome measurement in nursing (Hegyvary, 1992), and the potential for confounding influences related to client preferences or idiosyncrasies, highlight the importance of considering qualitative methods as a means of identifying "key patient outcome-influencing variables that can be altered by care providers" (Jennings, 1991, p. 67). Quantitative models are nonetheless essential for establishing causal relationships among variables and testing theory.

Little can be said about the effectiveness of nursing unless the outcomes selected for study are known to be associated with the structure and process of care. Theoretical frameworks used in outcome measurement in nursing should ideally "have universal applicability for various studies, settings, and times (Waltz & Silvia, 1991, p. 202) to help build a sound body of knowledge about the contribution that nursing makes to improving population health. Similarly, the variables selected for study should have direct relevance to nursing, and should be sufficiently numerous in any given study to adequately reflect the complexity of nursing practice (Waltz & Silvia, 1991). Obviously, assessing the effectiveness of nursing is far from a simple endeavour, requiring complex study designs and extensive data bases (Hegyvary, 1992).

Appropriateness of Measurement Tools

The credibility of effectiveness studies in nursing depends on the reliability and validity of the methods employed in assessing outcomes (Waltz & Silvia, 1991). Reliability refers to the degree to which measures produce consistent results when applied repeatedly in the same study, or in other studies measuring the same construct. Whether instruments actually measure what they purport to measure is an issue of validity. Validity is in essence a statement about the appropriateness, meaningfulness, and usefulness of inferences made on the basis of results obtained from administration of an instrument. It also is a measure of the correctness of actions taken as a result of those interpretations. No measurement can be valid unless it is reliable (Lohr, 1988), and there can be no confidence that actions taken on the basis of unreliable data are justifiable.

Despite the essential need for instruments of proven reliability and validity in outcome measurement, there is currently a critical lack of tested instruments by which those outcomes which may be most relevant to nursing can be assessed (Hayward et al., 1993; Jennings, 1991; Murdaugh, 1992). The idiosyncratic and inconsistent use of available instruments by nurse researchers across settings has seriously impeded the potential for measuring nursing effectiveness (Waltz & Sylvia, 1991). Incompatibility across studies in how concepts of relevance to nursing are used, and lack of theoretical consistency between the study purpose, the conceptual framework underpinning research, and the measurement instruments used all threaten validity (Strickland, 1992). There is an acknowledged need to develop new instruments with strong reliability and validity for outcomes research in nursing (Jennings, 1991). Measures should be sensitive enough to detect changes which may be of considerable benefit to clients' sense of well-being, but which may not be detectable using available instruments (Hinshaw, 1992; Jennings, 1991). This may require the use of qualitative methods to elicit information about which, and why, specific nursing interventions may (or may not) be helpful to clients.

Availability of Data

One of the most crucial requirements of effectiveness research in nursing is the availability of valid, reliable, useful, and readily retrievable data that demonstrate how nursing practice makes a difference to health outcomes (Lang & Marek, 1991; Ozbolt, 1992). The almost total invisibility of nursing in the databases of most healthcare systems currently invalidates much of the work being carried out in effectiveness research in health care (Lang & Marek, 1991).

The development of adequate nursing information systems involves the classification of different aspects of nursing practice (i.e. interventions), client needs, and outcomes into systematic groups or categories, each requiring different labels to delineate the category's meaning and purpose (Saba, 1988). Although it is generally assumed that care by nurses makes a difference in health outcomes, surprisingly few attempts have been made until very recently to develop information systems that focus explicitly on the relationship among what nurses do, for what type of client population, and with what results (Marek & Lang, 1993; Saba, 1993), which is the essence of effectiveness research.

Currently available nursing information systems were developed during the 1960s and 1970s, specifically to facilitate administration of nursing services or management of patient care delivery. They reflect a primary focus on structural or process components of quality assessment in health care during that period (Wyszewianski, 1988). Classification of patient acuity, as a means of predicting staffing needs in acute care settings, is the most common type of system used to administer nursing services. Systems used to manage patient care delivery are most commonly found in home care settings (Saba, 1988). The purpose of the former type of system is nursing resource allocation and productivity measurement (McCloskey & Bulechek, 1993), while that of the latter is generally the provision of data for case costing (i.e. monitoring resource intensity), or third party reimbursement (Saba, 1988). None of the classification systems was designed for the express purpose of measuring the effectiveness of nursing practice.

It is recognized that an urgent need exists to standardize nursing data bases, in recognition of the need to meaningfully "describe nursing practice across clinical settings, client populations, geographic areas and time" (Clark & Lang, 1992). At present, a diversity of classification systems or taxonomies centred around nursing diagnoses, nursing interventions, and/or nursing-sensitive outcomes (Saba, 1993) are used by nurses in some, though by no means all, practice settings. Most of these systems have been developed for use with in-patient or home care clients. They tend to be problem or disease focussed (Shamian, 1993), and have a medical or treatment bias, although considerable effort is being made to adapt them to the realities of community health nursing practice (Neufeld & Harrison, 1994). No classification scheme has yet, however, been purposefully devised for use in a setting where disease prevention and health promotion are the primary aspects of nursing practice. In the past, nursing classification systems have not expressly linked nursing intensity, interventions, or outcomes to client needs (Ryan & Delaney, 1995), which is a major deficiency of existing data bases, restricting their value in relation to outcomes research in nursing.

The concept of Nursing Minimum Data Sets (NMDS), introduced in 1985, was accepted by the American Nurses Association in 1990 (Ryan & Delaney, 1995), and by the Canadian Nurses Association in 1992 (Canadian Nurses Association, 1993) as a means of overcoming the fragmentation which currently exists in the use of taxonomic systems in various practice settings. The use of an internationally standardized nomenclature to describe nursing practice has been advocated (Clark & Lang, 1992).

The core elements of the NMDS include *care* items (diagnosis, intensity, intervention, and outcomes), *patient demographics*, and *service* items (such as facility and provider identification) which, if included in the records of *all* clients receiving nursing services, will facilitate describing and comparing nursing practice across client populations and settings. Most of the recommended demographic and service elements are readily available from the existing data bases of many health care agencies, with the exception of unique nurse identifier and client ethnicity (Ryan & Delaney, 1995). Comprehensiveness and standardization are lacking in the care items, however, and major difficulties exist with respect to their reliability, validity, and utility for effectiveness research (Ozbolt, 1992).

Even the most highly developed nursing diagnostic scheme (that of the North American Nursing Diagnosis Association) is not yet sufficiently comprehensive to adequately reflect the full scope of nursing practice across settings, particularly with respect to wellness diagnoses (Neufeld & Harrison, 1994). The consistency with which a given diagnosis is applied by nurses dealing with the same client problem(s) has not been adequately established through empirical studies (Ozbolt, 1992). As well, since the care elements have not yet been empirically linked with each other in any of the existing taxonomic systems, it is not possible to determine the degree to which interventions and client outcomes are in fact "causally" related to diagnoses, although it has been established that nursing diagnosis is a stronger predictor of health care utilization than medical diagnosis. Furthermore, the potential for assessing the comparability of nursing practice across settings and populations is severely limited by the use of many different classification systems in hospitals, home care settings, and public health facilities (Ryan & Delaney, 1995).

Despite the unquestioned urgency for further development of the NMDS as a resource for measuring the effectiveness of nursing, there is a need for caution in adapting, for that purpose, taxonomic systems developed with other goals in mind (Ozbolt, 1992). "A classification developed for staffing and costing serves inadequately for measuring the quality of care. We must be very careful to insist that classifications be used for the purposes for which they were designed and developed" (Grobe, 1993, p. 99). It cannot be said at this point in time that any of the nursing classification systems has been sufficiently well developed, or adequately tested in a variety of settings, to warrant its use as a preferred resource in assessing client outcomes. It could well be that new systems are needed, developed specifically for the purpose of measuring the effectiveness of nursing.

Discussion

Interest in measuring the effectiveness of health care is a recent phenomenon, motivated largely by crises in health care funding. Assessing the quality of health care has been a long-standing concern, but was primarily focussed on measuring structural or process components of quality during the 1960s and 1970s. After some waning during the 1980s (Wyszewianski, 1988), there has been a resurgence of interest in quality assurance, but the recent focus has been almost exclusively on outcomes, which has given cause for concern (Lohr, 1988; Wyszewianski, 1988).

Effectiveness is a measure of the degree to which intended results have been obtained, a central issue in quality assessment. We cannot improve outcomes, which is at the heart of effectiveness, without quality assessment (Mark, 1995). In turn, we cannot improve quality unless we establish the linkage that exists between process and outcomes. Interventions (process) should ideally be tailored to specific client needs, which influence the type and intensity of resources required. An integrated framework for outcome measurement must therefore allow a determination of the relationship that exists among structure, process, and outcome dimensions of quality.

Traditionally, the three major approaches to assessing quality - structural, process, or outcome, have been undertaken in an either/or fashion, rather than as concurrent activities viewed as part of a holistic evaluation plan. Although considerable nursing research has been conducted in quality assessment, it has tended to focus on one or another dimension of quality, rather than on an exploration of the links among client problems, nursing interventions, client outcomes, and costs. Similarly, nursing classification systems have evolved from a centric perspective on client needs *or* nursing interventions, and the attempt to link outcomes to either focus has begun only very recently. As a consequence, there exists a serious lack of "methodological tools and resources to conduct effectiveness research" (Ozbolt, 1992, p. 210) in nursing. To demonstrate the contribution that nurses make to improved health outcomes, novel approaches to the measurement of effectiveness will be required.

Measuring the Effectiveness of Public Health Nursing

The Black Box of Nursing Interventions

The problems inherent in measuring the effectiveness of nursing practice are compounded in public health nursing, which "does not have well-developed explanatory theoretical frameworks upon which to base research design" (Hayward et al., 1993, p. 3). In public health, the intended outcome of much preventive care and health education is change in lifestyle or behaviour. Research regarding health behaviour has generally been conducted without reference to the complex interplay between individuals and their social environment, and there is limited understanding of the role of client perceptions in mediating health promoting behaviour (Chalmers & Kristjanson, 1989; Laffrey, Loveland-Cherry, & Winkler, 1986). It is therefore difficult to attribute behavioural change, or lack thereof, to antecedent interventions.

What constitutes a public health nursing intervention is often described in terms such as assessment, provision of information, health counselling, support, referral, or advocacy (Vahldieck, Reeves, & Schmelzer, 1989). In practice, the contents of these "black boxes" of intervention remain obscure, and the connecting processes between client needs, nursing actions, and outcomes are seldom clearly visible. To improve the effectiveness of practice, it is necessary to open the black boxes, and this requires a theoretical approach to practice and evaluation (Koepsell et al, 1992). Most studies of the effectiveness of public health nursing interventions to date have lacked a theoretical framework, making it difficult to interpret research results. The interdisciplinary nature of many public health programs adds to the difficulty of trying to isolate the distinct contribution of public health nurses to the achievement of program results (Hayward et al., 1993).

Effectiveness of Home Based Public Health Nursing Programs

By far, the most studied aspect of public health nursing practice has involved the parent-child population, and interventions delivered through home visitation have been the predominant focus of research. Despite inherent difficulties in conducting experimental or quasi-experimental trials in public health nursing (Hayward et al., 1993), many of the reported outcome studies have attempted randomization, and used quantitative approaches to measurement, which in many cases resulted in equivocal conclusions about the effectiveness of interventions.

A review of reported empirical studies of the effectiveness of home visits by public health nurses was conducted for the period 1960 to 1984 by Combs-Orme, Reis, and Ward (1985). Their review identified a number of methodological and substantive problems in the studies reported in the literature. The most significant problem was lack of a theoretical framework linking client needs, nursing activities, and outcomes measured, making interpretation of the observed treatment effect difficult. The process by which outcomes were achieved could not be adequately explained in any of the studies. Only three of the eight studies provided a replicable definition of the intervention being evaluated. In most cases, interventions were broadly described in terms such as teaching, assessment, and support. Lack of specific descriptions of the interventions impeded determination of the manner in which client needs were assessed, and how interventions were tailored to meet those needs. The authors comment that low statistical power in the studies emanated form several consistent flaws, including small sample size compounded by high attrition, the expected small to moderate effect for most home-based early interventions overall, and unreliability of measures. Despite these problems, there was evidence "that in certain circumstances PHN services can be effective . . . public health nurses can effectively impart health knowledge to high-risk mothers . . . can be instrumental in effecting positive change in maternal attitudes . . . and parenting practices. . . and these positive changes may be associated with positive changes in health and development for infants" (p. 497). The authors conclude that evaluation research in public health nursing must address the need for selection of clinically sensitive measures of outcome, adequate sample size to demonstrate statistical significance for the change expected on the measures, and procedures for standardizing the intervention being evaluated.

Olds & Kitzman (1990) reviewed randomized trials of prenatal and infancy home-visitation programs, designed to improve outcomes of pregnancy and/or health and development of young children and their mothers, in socially disadvantaged populations. Their analysis focussed on disentangling design and methodological problems from issues related to causal influences, content and structure of services, and degree to which the study population was at environmental, behavioural, or social risk. Their review indicated that home visiting during pregnancy, in the hope of improving birth outcomes, is only effective when it involves comprehensive approaches which focus on maternal and family strengths, and which incorporate social support, health education, and linkage with health and human service agencies. The provision of social support alone, without a corresponding emphasis on improving health-related behaviours, did not achieve intended outcomes. Furthermore, programs had few enduring effects when home visitation ceased after the infant's birth, and was not carried on into the postnatal period. Of 10 trials reported between 1974 and 1989, which examined maternal teaching and childhood cognitive development as outcomes, seven were based on the underlying theoretical assumption that parent education related to promotion of effective parent-child relationships would result in decreased developmental delays in children. The other three trials simultaneously emphasized social support and education to improve parental care giving. Three other trials which tested home visiting as a means of preventing child maltreatment were also reviewed. The analysis revealed that home based maternal and child programs are more likely to succeed if based on a multi-dimensional model of causation (social, behavioural, and psychological influences on health), if there is a strong (in terms of frequency and duration) therapeutic alliance between the visitor and family, and if the program is targeted to families at high risk of health problems by virtue of poverty and lack of personal and social resources (Olds & Kitzman, 1990).

Another group of authors (Ciliska et al., 1994) conducted an extensive systematic review of the effectiveness of home visiting by nurses. In summarizing their findings, the authors note that none of the studies identified negative effects of home visiting, while positive impacts were found in relation to "physical health, mental health and development, social health, health habits, knowledge and service utilization" (p. 20). They found that the intensity of intervention, and preexisting level of client health and social status may mediate intervention effects. Many studies reported greater impact with clients of higher risk (e.g. unmarried, low income) than those of moderate or low risk. These authors also note the difficulty with interpreting study results in the absence of theoretical linkages between interventions and expected outcomes. Another criticism of the literature was related to the difficulty in establishing treatment differences attributable to home visiting by public health nurses, in studies incorporating multi-pronged approaches involving other professionals. The authors conclude that "there is adequate existing evidence . . . that home visiting by nurses has important impacts on many otherwise intransigent health problems" (Ciliska et al., 1994, p. 22). Outcome indicators used in the reviewed studies included a broad range of physical (e.g. birth weight, developmental milestones, childhood illness); emotional (e.g. post-partum depression); social (e.g. parent-child interactions, neglect, abuse); utilization (e.g. emergency visits, hospitalizations), and knowledge measures. It is worth noting that all of the selected outcome measures were provider defined. The authors stress the need for effectiveness studies which incorporate measures of outcomes known to be important and relevant to clients. They conclude that in public health research, problems of design and methodology in randomized trials mitigate against finding true treatment differences, and that positive impacts, when found, probably underestimate the real impact of the intervention (Ciliska et al., 1994).

Starting in 1977, a study of comprehensive prenatal and postpartum nurse home visitation was conducted in a small, semi-rural community in the state of New York (Olds, Henderson, Chamberlin, & Tatelbaum, 1986; Olds, Henderson, Tatelbaum, & Chamberlin, 1986; Olds, Henderson, Tatelbaum, & Chamberlin, 1988). Four hundred pregnant women were enrolled in the study. The majority were of low income status (61%), unmarried (62%), and/or adolescent (47%). Follow-up of families over a four year period after initiation of the comprehensive prenatal and post-partum home visiting program revealed that the intervention resulted in improved outcomes of pregnancy (Olds, Henderson, Tatelbaum et al., 1986); reduced rates of child abuse and neglect among high risk families, sustained only while nurse visiting was in effect (Olds, Henderson, Chamberlin et al., 1986; Olds, Henderson, & Kitzman, 1994); increased educational achievement and maternal employment, and reduced subsequent unwanted pregnancies (Olds et al., 1988); and was cost-effective for low-income families (Olds, Henderson, Phelps, Kitzman, & Hanks, 1993).

While the program has had enduring effects on some aspects of parental care giving, safety of the home, and children's use of the health care system, the researchers could only hypothesize that the effects of the program were in fact directly related to its specific content and process. Although it was felt that the nature of the relationship between study nurses and their clients strongly influenced results, client perceptions of the quality of the nurse-client relationship were not solicited. The authors acknowledge the need to test hypotheses about "personal, parenting, and program processes in future preventive intervention studies" (Olds et al., 1994, p. 96). The relationship between the program and reduced health care utilization by children remains unclear, although it is assumed that the program improved parental competence in relation to child care and household safety.

While the content of the program focussed on promoting mothers' perceptions of self-efficacy (Olds et al., 1994) maternal sense of control was only measured prior to assignment to one of the treatment conditions (Olds, Henderson, Chamberlin et al., 1986). The authors note that women in the nurse-visited group tended to have greater sense of control, and to receive more social support from husbands or boyfriends, than women in the comparison group (Olds et al., 1994). It is not known to what degree this may have influenced outcomes. Since no further measures of control were carried out, it is not possible to determine whether women in the treatment group actually experienced a *change* in perceived self-efficacy as a result of intervention.

Linkage of families with other health and human services was a component of the program, designed to "work in an integrated, complementary way to improve conditions for bearing and rearing children" (Olds, Henderson, Chamberlin et al., 1986, p. 67), along with parent education and enhancement of social support. Given the comprehensiveness of the home visitation intervention, and its duration, it is difficult to disentangle the effects of nursing practice from those of other health providers and support network members on outcomes achieved. The authors acknowledge that differences in child maltreatment between nurse-visited and comparison families were too large to be attributable solely to the nurses' promotion of superior care giving. They conclude that greater surveillance of treatment families, by nurses and other health and human service providers, probably led to referral at earlier stages of care giving dysfunction than was the case for families in the comparison group. It is likely that many of the outcomes achieved were the result of a variety of services, but also highly probable that improved coordination of services, and early intervention as appropriate, were attributable to the nursing component of the program. Contamination by the full range of services provided (Hayward et al., 1993) nonetheless diminishes confidence that nurse visitation was primarily responsible for the majority of program results. As with other intervention studies focussing on home visitation by nurses, the research conducted by Olds and his colleagues was not grounded in a clear theoretical structure, making interpretation of results difficult. Thus, while there is solid evidence of the effectiveness of the prenatal and post-partum program, there is limited understanding of the degree to which results were directly attributable to the effectiveness of nursing practice. Although the research suggests that nurses influenced individuals' sense of personal competence (Olds et al., 1994), the process by which nurse-client interactions influenced outcomes remains unclear. Nursing's distinct contribution to improved health and social outcomes remains hidden within the "black box" of home visiting as an intervention.

Barnard and her colleagues (1988) tested the influence of home visiting by a single consistent caregiver on fostering parental competence in providing a healthy environment for child development (this study was included in the Olds & Kitzman [1990] review described above). Their intervention was designed to "help women with improving their ability to initiate and maintain relationships that would be supportive of their parenting role" (p. 248). Pregnant women judged to have low social support were randomly assigned to one of two groups - the Mental Health model or the Information/Resource model. Judgment of low social support was based on clinical assessment by public health nurses. In general, mothers in the treatment group demonstrated less depression, perceived more support, had a more positive view of their world, and more had increased their social competencies. There were few child differences in the two groups. Subsequent analysis of data within strata of selected maternal characteristics revealed that less competent mothers had better outcomes in the Mental Health group, while more competent mothers had better outcomes in the Information/Resource group. Drop out of the non-treatment group was associated with lower IQ, less education, and lower social and community life skills, hinting at the importance of supportive nurse-client relationships with clients lacking social and life skills. Client perceptions of the degree to which they found the relationship helpful were not sought. Failure to detect significant treatment differences in the infants alludes to the tenuousness of using measures that may be inappropriate to detect, in the short-term, changes which may become apparent only long after an intervention (Emde, 1988).

A major problem encountered in assessing the influence of home visiting on health outcomes is the difficulty of disentangling the effect of the home based intervention from other program effects. Home visits are never the sole intervention strategy, but as a rule, are undertaken as a means of enhancing support, by establishment of a strong personal, therapeutic relationship, to individuals considered to have deficient social networks. Yet, the quality of the provider-client relationship, and its meaning to study participants have not been measured in studies of home visitation. Furthermore, home visitation as an intervention strategy is usually directed at "high risk" individuals or families who are extremely diverse in terms of health behaviours, needs, and goals at intake into a study. Unless heterogeneity among study participants is considered in measurement, differences in outcomes cannot be easily interpreted, and program effects may be grossly underestimated. None of the studies of home visitation has explicitly demonstrated a linkage among client needs, provider actions, and specific outcomes. It is therefore not possible to explain why home visitation is often an effective strategy in achieving positive outcomes in otherwise intractable populations. From outcome studies conducted to date, it is not clear whether effectiveness is a function of matching of interventions to specific client needs (Emde, 1988; Olds & Kitzman, 1990) - a *process* issue, or due to the quality of the nurse-client interaction, related to interpersonal skills of providers - a matter of *structure*. If we are to improve the effectiveness of public health nursing programs, clarification of the process by which outcomes are achieved is essential.

Nurse-Client Interactions in Public Health

Despite the importance of provider-client relationships implied in the above studies, little research in public health nursing has addressed the impact of the nurse-client interaction on program effectiveness. A few studies have examined the content of nurse-client interactions (Dodge & Oakley, 1989; Kristjanson & Chalmers, 1990; Webster-Stratton, Glascock, & McCarthy, 1986), and some (Besner, 1994; Laffrey, Renwanz-Boyle, Slagle, Guthmiller, & Carter, 1990; Rovers & Isenor, 1988) have solicited client perceptions of services provided by public health nurses.

Dodge & Oakley (1989) found that nurses in family planning clinics tended to ask questions or give contraception information on the basis of clients' past practices and knowledge. They were less likely to assess client capacity to carry out contraceptive behaviour, or to offer support in helping clients select contraceptive methods that were tailored to their actual lifestyle. The authors found little evidence that clients were active participants in the decision-making process. The passive client role predominated in another study (Webster-Stratton et al., 1986) of interactions between pediatric nurse practitioners and clients attending well-child clinics. While comprehensive assessments were carried out, and a wealth of information was provided, advice was often unaccompanied by supporting rationale, and was primarily related to child growth and development. The tone of interactions was factual, rather than affective. Interpersonal and psycho-social aspects of nursing care were not strong features of many of the interactions analysed in the study.

In their study of nurse-client interactions across a range of settings and contexts of public health nursing practice, Kristjanson & Chalmers (1990) also found that psycho-social concerns were seldom addressed, and that "routinized" interactions were not highly productive. Education by nurses comprised a significant portion of most interactions. Skill development, support, feedback and affirmation, and referral to other sources of help were also frequently used interventions. The researchers note that "no interactions occurred in which the client had primary control" (Kristjanson & Chalmers, 1990, p. 220), and that the client role was largely passive. It is interesting to note that interactions which occurred in clients' homes were characterized by greater client control, a longer exchange of information between the nurse and client, nursing assessment that was more thorough, and interventions that were more responsive to individual and family concerns.

Luker and Chalmers (1990) interviewed health visitors about interactions which they perceived led to positive outcomes, and others which were felt to have had little impact. Client factors which, in the view of health visitors, influenced positive outcomes included perceived need for the service, positive past experience with health visitors, belief in the value of preventive health services, and willingness to engage in the interaction. Health visitors felt that their ability to identify and focus on clients' perceived needs, to provide services which were relevant and acceptable, to communicate genuine concern for the family's health, as well as use of a non-authoritative approach facilitated successful outcomes.

When asked what benefits they derived from interactions with public health nurses, elderly clients in one study referred to knowledge gain, increased confidence with self-care ability, peace of mind, improved physical health, and illness prevention (Laffrey et al., 1990). Many of the participants in this study, which elicited information from 497 new and returning clients in a preventive program for seniors, noted that they had also received sound advice, encouragement, reassurance, and emotional support from the public health nurses.

Another study examined the perceptions and use of public health nursing services by a small, but representative sample of health unit clients (Besner, 1994). In that study, client-defined outcomes were classified as changes in behaviour, knowledge, and physiological or psychological functioning. It was determined that all clients reported knowledge gain, although their need for information, and the amount of new knowledge acquired, differed substantially. Similarly, some clients had a far greater need for emotional, appraisal (reassurance, encouragement), or instrumental support (e.g. blood pressure screening) than others, and the benefit which accrued as a result of contact with public health nurses was not uniform across the board. Some clients noted that perceived benefits exceeded their expectations. For example, while some clients had come to the health unit seeking information, they received needed emotional or appraisal support. In many cases, they were unaware that such support was available from public health nurses until their initial contact with the service. There was evidence that interactions described by clients as particularly strong and supportive were more likely to occur when nurse-client exchanges were repeated on several occasions, and incorporated emotional and appraisal support, rather than health education alone. The public health nurse's ability to coordinate community services on behalf of the client seemed also to promote the development of a supportive nurse-client relationship.

These findings are consistent with those of a study reported by Rovers & Isenor (1988), who examined perceptions about public health services in two groups of postpartum women. Mothers reported as helpful services which matched their expectations, and as unhelpful, information that was incongruent with valued practices, or interactions in which there was a poor interpersonal fit with the nurse. Highly positive impressions tended to be associated with interactions repeated over several home visits, during which the mother perceived a lot of support from the nurse. Mothers generally did not feel comfortable initiating contact with the public health nurse unless she was well known to them.

In both the study by Rovers & Isenor (1988) and that by Besner (1994), it was evident that many of the services offered by public health nurses were not well known to clients. Thus, although clients may perceive a need for help, they are unlikely to reach out to the public health nurse, particularly if she is not well known to them. Unless the nurse is able to respond to subtle cues that may be an expression of need, there is great difficulty in knowing whether or not nursing actions are in fact relevant to client needs. Documenting outcomes is indeed difficult unless clients are specifically asked to comment on the degree to which their perceived needs were met.

A few studies of nursing sensitive health outcomes that specifically centred on alleviation of stressful situations encountered by families (Pless et al., 1994; Thibaudeau & Reidy, 1977) support the assumption that client focussed care increases the probability that interactions will be perceived by clients as helpful and supportive. If responsiveness to clients' bio-psycho-social needs enhances the likelihood that a trusting relationship will develop, it should be possible to clearly demonstrate the unique contribution that nursing makes to improving health outcomes, given the interpersonal nature of nursing practice.

Discussion

The current focus on evidence-based practice in population health promotion (Hamilton & Bhatti, 1996) underscores the need for use of comprehensive evaluation models that integrate structure, process, and outcome components in measures of effectiveness. Nursing scholars have highlighted the importance of linking assessment, diagnosis, and outcomes to intensity, complexity, and focus of care (Tripp-Reimer et al., 1996) and of identifying the criteria which nurses use in selecting interventions from among a range of alternative approaches (Cherkin, 1992; DeFreise, 1992). Although little can be said about the effectiveness of public health nursing unless the outcomes selected for study are clearly known to be associated with the structure and process of care, not a single study was identified in the literature search conducted for this review, which addressed outcome measurement using a comprehensive and integrated model. This is not surprising, given that the focus on documenting effectiveness is a fairly recent phenomenon in health care. All health professionals now face the challenge of finding new approaches to measuring success in ways that clearly link outcomes to organisational variables and antecedent interventions. Nursing is no exception.

Despite evidence that public health nursing has a positive impact on many health status indicators, using a variety of home or community based delivery strategies, the validity of research results is often undermined by the inability to clearly attribute outcomes to antecedent public health nursing interventions. More knowledge is needed of the decision-making process which underpins public health nursing practice, and of the linkage which exists among structure, process, and outcome components of practice. Evaluation research is one method for providing evidence of the effectiveness of public health nursing programs, based on an examination of current activities.

Program Evaluation

The Essence of Evaluation

Evaluation has been defined by Scriven (1994) as "the process of determining the merit or worth of entities. . . . Evaluation is an essential ingredient in every practical activity - where it is used to distinguish between the best or better things to . . . do, and less good alternatives. . . . If we cannot distinguish between good and bad practice, we can never improve practice" (p. 152). Evaluation is a means of improving effectiveness through systematic data-based inquiry. Its purpose is to guide action, enhance decision-making, and apply knowledge to the solution of societal problems (Patton, 1990).

Wholey (1987) defines a program as a "set of resources and activities directed toward one or more common goals, typically under the direction of a single manager or a management team" (p. 78). Program evaluation generally incorporates the measurement of program performance (i.e. activities, outcomes, and costs), as well as testing of assumptions about the linkages that exist among structural, process, and outcome components of the program (Wholey, 1987). From a historical perspective, program evaluation evolved with a strong focus on the classic randomized experiment as the design of choice in conducting evaluations, although qualitative or ethnographic methods were highly advocated by some (Chen, 1990). There is growing recognition that integration of qualitative and quantitative methods in single studies, or conduct of a series of studies each employing different methods, provides the most appropriate framework for evaluation practice (House, 1994; Reichardt & Rallis, 1994; Smith, 1994).

Since the early development of program evaluation, research has been characterized by failure to link specific aspects of programs to specific outcomes. This "has been referred to as the 'black box' approach to evaluation where a program is treated as a single unitary force and no effort is made to sort out specific 'active ingredients' or aspects of the program that are particularly important" (Marsh & Wirick, 1991, p. 50). Black box approaches to evaluation are adequate only when research is focussed on assessing efficacy within highly controlled research conditions (e.g. vaccine trials), or when the investigation seeks only to determine whether a program works, not why or how it produces its effects (DeFriese, 1990).

Much effectiveness research in the social sciences has been conducted under experimental conditions (Lipsey, Crosse, Dunkle, Pollard, & Stobart, 1985) but often the program or "treatment" has been considered as an " undifferentiated whole present with all its concomitants in one condition and absent in the other," which is referred to as minimalist research (p. 34). Effectiveness research in public health nursing has typically been conducted in this fashion. This type of research, which Chen (1990) refers to as *method-oriented* evaluation, often under-represents and oversimplifies the complex phenomena of the social sciences. Furthermore, it fails to explicate how programs work, what intervening or mediating variables are critical in explaining variations in outcomes, and what interactions occur between participants and setting characteristics (Lipsey, 1990). It is now recognized that adequate program evaluation *cannot* be done using a black box approach. The *theory driven* approach, characterized by use of a conceptual model which explicates the processes involved in the causal chain, is now accepted as the only reasonable approach to conducting effectiveness research in program evaluation (Bickman, 1987; Chen, 1990; Lipsey et al., 1985).

The Theory Driven Approach to Program Evaluation

Bickman (1987) defines program theory as "the construction of a plausible and sensible model of how a program is supposed to work" (p. 5). Program theory describes the values, beliefs, and goals that underpin program structure, processes, and expected outcomes. It provides the rationale for the "treatment" or interventions, and thus clarifies presumed cause and effect relationships that account for program impacts. The theory driven approach avoids the pitfalls of black box evaluation by specifying the causal mechanisms that underlie the relationships between treatments and their effects (Chen & Rossi, 1987). Several benefits accrue to an evaluation that has a program theory, not the least of which is that without theory, there is no real progression of human understanding (Holmes, Teresi, & Ory, 1993). The black box approach to effectiveness research condemns discovery of new or unexpected treatment effects to a trial-and-error process (Lipsey, 1990).

Issues in Program Evaluation

Since many of the theoretical variables or constructs in social science are highly abstract (e.g. empowerment, self-efficacy), measurement of those constructs is often indirect, or assessed with instruments that are seldom error free. Hence relatively large amounts of error are potentially introduced in measurement, unless some effort is made to specify structural relationships among exogenous, intervening, and endogenous variables to provide some understanding of the underlying processes that link the variables to effects. Model specification is a means of enhancing internal validity. To specify a model, however, requires sound understanding of selection processes and intervention strategies in a particular program. The more knowledge researchers have about the phenomenon which is being studied, the less need there is for the use of randomization as a means of controlling threats to internal validity (Chen & Rossi, 1987).

In situations where the network of causes and effects is complex, understanding the "treatment," its implementation, the conditions under which it is observed, and the setting in which it occurs are essential if there is intent to replicate or improve effects. This concern with reproducibility of results from one group of participants, treatment conditions, and observation settings to others is the essence of both construct (Conrad & Conrad, 1994) and external validity (Cook & Campbell, 1979). When interventions are complex, administered over multiple occasions, and vary from case to case, as is typical of much public health nursing practice, a substantial amount of information must be provided to establish that "treatments" as delivered in fact account for variations in outcomes (Lipsey et al., 1985). Cook and Campbell (1979) argue that researchers interested in explaining how and why certain actions result in specified outcomes (i.e. theory development or testing) must pay particular attention to construct validity of causes, with construct validity of effects being of somewhat less significance. Construct validity is enhanced by development of sound program theory (Bickman, 1987), since this increases the likelihood that the measures selected in research design will closely match theoretical constructs or variables (Chen & Rossi, 1987).

Conrad and Conrad (1994) categorize the major threats to construct validity in terms of the unit of analysis, the treatment, the observation, and the setting, all of which underscore the need for carefully developed program theory, and for monitoring implementation prior to testing program effectiveness. Issues of internal and external validity are also discussed within these categories.

1) *Unit of analysis*

Choosing the wrong unit of analysis, or generalizing to other programs on the basis of units or individuals participating in the particular program which is the object of evaluation, is a threat to construct validity. Similarly, administering a standardized version of treatment at only one program site (e.g. a health centre), sampling from this site, and then generalizing to the program can threaten construct validity, since all study subjects share a common environment, and normal variations of the "treatment" which occur in practice have not been considered in the experimental situation. Sampling units in a way that accurately represents program delivery is needed to improve the generalization of both the unit and treatment constructs (Conrad & Conrad, 1994). As Chen and Rossi (1987) point out, using small, homogeneous populations to improve internal validity of a study may result in a sample so unlike those regularly receiving the program as to render the results useless from a policy perspective. In their view, sampling strategy should be driven by the relevance of the study population to the program being evaluated, "a decision that should be based upon a theory derived model of the program, treatment, contingencies, and possible interactions among the former" (p. 101). They emphasize that model specification (i.e. theory) is helpful in improving all types of validity, while randomization merely addresses internal validity.

Construct validity is also in question if a high percentage of eligible subjects refuse to participate in the study, if differential attrition occurs between experimental and control groups, and when participant or provider bias is inadvertently introduced (Cook & Campbell, 1979). External validity is enhanced when researchers incorporate knowledge of the population to which the program is delivered in their study design (Chen & Rossi, 1987). "Clearly articulating the nature of the problem and the group affected is part of program theory" (Bickman, 1987, p. 11).

2) *The treatment*

Studying only one type of treatment modality can contribute to bias, since it is never made clear whether random irrelevancies (Cook & Campbell, 1979) such as personal characteristics of the provider, corporate policy, agency culture, or other intervening variables account more for program effects than does the treatment. Unless the intervention process itself (e.g. home visits to improve maternal child outcomes) has been thoroughly explicated, perhaps through prior descriptive study, it is difficult to know whether the experimental treatment is characteristic of "typical" practice, limiting generalization of findings (Conrad & Conrad, 1994).

Statistical conclusion validity, which is a function of the power of a statistical test and of the estimate of error on endogenous variables, is enhanced when knowledge of the level, range, and consistency with which treatment is delivered is explicated in program theory (Chen & Rossi, 1987). It has been demonstrated (Dobson & Cook, 1980) that specifying level of treatment in a model can result in a change in treatment effects from being statistically insignificant to significant. Chen & Rossi (1987) note that insufficient attention has been paid in program evaluation to level (i.e. complexity), intensity, and evenness with which treatments are delivered. Inconsistent treatment delivery, inability to recruit an adequate number of participants, faulty evaluation designs, and poorly formulated programs have contributed to problems in discriminating between program failure and theory failure in social science research (Bickman, 1987; Lipsey et al., 1985). The first question that should be raised in program evaluation is whether the design is sufficient to detect meaningful effects that might be present (Bickman, 1987) and to identify potential unrelated factors that may confound effect size. Failure to account for additional services that program participants receive from sources other than the program is an example of one factor that may contribute to an overestimate of effects (Shadish, Cook, & Houts, 1986).

Since many interventions in social programs involve multiple activities (e.g. information, skill development, advocacy), construct validity is threatened when no distinction is made in relation to which aspects of the intervention had the most impact (Bickman, 1987). In social service programs, there are few situations in which it is possible "to test a stable A construct's effect on a stable B construct" (Conrad & Conrad, 1994, p. 17). In studies of complex phenomena, conceptual analysis of the essential relationship among constructs must precede any attempt to test theory, if threats to construct validity are to be diminished. Internal validity is also enhanced when it is possible to specify which extraneous variables are correlated with treatment effects (Chen & Rossi, 1987).

Knowledge of the time that must be allowed for effects to occur is also fundamental to research design, since measuring effects at a point where only some of the positive impacts are identifiable will lead to under-estimation of the benefits of the program. Measures must be valid for the program in question. Without theory, it is difficult to determine which measures should be used, and whether those measures are valid for the program (Bickman, 1987; Lipsey et al., 1985). Social science research has been plagued by failure to report or demonstrate that measures used in program evaluation were adequate for the purpose at hand (Lipsey et al., 1985). "Before testing the pure science question 'Which program works better?' it is reasonable to develop stronger theoretical models of how the program works and learn to measure and improve its key components . . . before doing social experiments, we should know how to measure and manipulate our social treatments" (Conrad & Conrad, 1994, p. 19).

3) *The observation*

Using a single measure of the dependent variable (e.g. self report) can potentially invalidate study results if the effect (e.g. self-efficacy) depends to some extent on the way it is measured. Interaction of observation with unit of analysis, treatment, and setting may also occur, such as when interviews are conducted at a time when participants feel particularly vulnerable, but for reasons unrelated to the treatment, or if the method of observation (e.g. focus groups) rather than the treatment, influences outcomes (Conrad & Conrad, 1994). Multiple measures "help investigators to note agreements and disagreements about how something ought to be measured, to discover empirical convergences, to note empirical discrepancies that can result from conceptual differences between measures, and to compensate for the error and variance unique to any particular operationalization" (Shadish et al., 1986, p. 30).

4) *The setting*

Without some assessment of the way in which the setting (organisational structure) influences program effectiveness, generalization from one setting to another is problematic. Chen & Rossi (1987) conceptualise external validity in terms of implicit and explicit generalization. "Explicit generalization refers to an evaluation in which the designer has a clear expectation of the system in which a program may operate in future, and builds that expectation into the research. In an evaluation of this sort, external validity is explicitly built into the design of the study" (p. 100). Conversely, implicit generalizations make no attempt to incorporate into study design characteristics of the organisation administering the program, or of delivery strategies.

The Development of Program Theory

Lipsey (1990) distinguishes between two types of theory that are relevant to practical science: theory that models the process by which social problems are ameliorated (i.e. program theory), and theory that attempts to explain what causes social problems in the first place (i.e. social theory), the latter of which may well suggest approaches to problem resolution.

A further distinction must be made between program theory, and program implementation theory. Program theory is that which explicates cause and effect relationships and provides rationale for the treatment (i.e. intervention), while implementation theory addresses the intervention process itself (Scheirer, 1987). In many cases, social programs are grounded in theory which is at best vague, or most often missing altogether. It is thus difficult to clearly specify the types of activities and outputs which contribute toward achievement of program goals (Wholey, 1987). In such cases, program evaluation, which essentially focuses on measurement of outcomes, is likely to overlook the diversity of underlying program theories.

> The results from such a study are not likely to be useful, whether or not the findings show positive effects. . . [since] the evaluator is unable to supply documentation on what specific program activities brought about the desirable outcomes (Scheirer, 1987, p. 62).

Program theory is by nature prescriptive or evaluative in form, unlike social theory which aims primarily to describe and explain phenomena. As is true of all practical theory, program theory nonetheless incorporates descriptive theory. Chen (1990) defines prescriptive program theory as that which is characterized by action orientation, concern with treatment design and implementation, and selection of a range of options in choosing outcome criteria. Thus program theory proposes treatment options as a means of solving problems, specifies treatment in terms of its components and their relative strengths, as well as defining what constitutes an intervention, and uses value-laden decisions in selecting outcome criteria, from among the wide range of possible outcomes. The degree to which the assumptions underlying the theory are correct may well influence whether it is possible to demonstrate that the program has achieved its intended impact.

Chen (1990) delineates the prescriptive and descriptive aspects of program theory. He labels "*normative theory*" that part of program theory which provides guidance on what goals or outcomes should be pursued or examined. It consists of three domains, each of which provides direction for program evaluation - treatment theory, implementation environment theory, and outcome theory. "*Causative theory*," which involves description of the relationships that exist among constructs, is also comprised of three evaluation domains - impact theory, intervening mechanism theory, and generalization theory. Normative theory can help diagnose implementation problems, and facilitate corrective action by identifying structural or implementation barriers to effectiveness. It can also guide program planning and formulation. Causative theory answers questions about the relationships that exist between treatment and its effects, and about the factors that mediate impact. "Information found in evaluating normative domain theories . . . provides the knowledge of contextual and intervening factors needed to explain or interpret the empirical findings in the causative domain" (pp. 51-52).

Summary

The development of sound theoretical frameworks to guide effectiveness research has been a neglected aspect of program evaluation generally (Bickman, 1987) and of health related program evaluation specifically (Holmes et al., 1993). The only way to know whether claims about the effectiveness of a program are accurate is to approach outcome research with strong and coherent theories about the relationships that are presumed to exist between programs and their effects (Bickman, 1987). A great deal of information and preparation are required before causal questions can be answered through research. Outcome measurement must rely on instruments that are valid and reliable, and which are relevant to the purpose of evaluation. Prior to conducting effectiveness research or impact analysis, observational studies are needed to help clarify the nature of the program which is to be evaluated, its proper implementation, the context within which and the population to whom it is delivered, and the most appropriate measures that should be used. This information can then be used to generate logic models (i.e. theories) to test the program's effectiveness (Conrad & Conrad, 1994). Without exception, reported studies of the effectiveness of public health nursing programs fail to meet the criteria for sound theoretically based outcome research. The same could be said of much, if not most of, health related research in general. This puts into question the degree to which claims about the effectiveness of practice are warranted. There is a great need to develop new approaches to the measurement of outcomes. The theory driven evaluation method provides a useful framework within which to conduct future effectiveness research in nursing and health care.

In this research, the goal is to gather information through interviews with nurses and clients, and to clarify the nature of the relationship that exists among client factors, system characteristics, provider actions and client outcomes in a community based postpartum program. The data will provide information that can lead to the later development of valid instruments relevant to the evaluation of public health nursing programs.

References

Alberta Health. (1995, February). A three year business plan. 1995-96 to 1997-98. Edmonton, AB: Author.

Allen, M. (1982). A model of nursing: A plan for research and development. In Research. A base for the future. Proceedings of the fifth International Conference on Nursing Research. Edinburgh: University of Edinburgh.

Alvarez, R. (1995). Information requirements for the health system: Knowledge needs for better management. In National Forum on Health, Summary Report. Evidence-based decision-making: A dialogue on health information (p.17). Ottawa, ON: Author.

American Nurses Association. (1980). Nursing. A social policy statement. Kansas City, MO: Author.

Angus, D. E., Auer, L., Cloutier, J. E., & Albert, T. (1995). Sustainable health care for Canada. Synthesis report. Ottawa, ON: University of Ottawa.

Bandura, A. (1971). Social learning theory. New York: General Learning.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. Psychological Review, 84(2), 191-215.

Bandura, A. (1982). Self-efficacy mechanism in human agency. American Psychologist, 37(2), 122-147.

Bandura, A. (1990). Perceived self-efficacy in the exercise of control over AIDS infection. Evaluation and Program Planning, 13, 9-17.

Bandura, A., & Adams, N.E. (1977). Analysis of self-efficacy theory of behavioral change. Cognitive Therapy and Research, 1(4), 287-310.

Bandura, A., Adams, N. E., & Beyer, J. (1977). Cognitive processes mediating behavioral change. Journal of Personality and Social Psychology, 35(3), 125-139.

Bandura, A., & Schunk, D. H. (1981). Cultivating competence, self-efficacy, and intrinsic interest through proximal self-motivation. Journal of Personality and Social Psychology, 41(3), 586-598.

Barnard, K. E., Magyary, D., Sumner, G., Booth, C. L., Mitchell, S. K., & Spieker, S. (1988). Prevention of parenting alterations for women with low social support. Psychiatry, 51, 586-598.

Bergner, M. (1985). Measurement of health status. Medical Care, 23(5), 696-704.

Besner, J. (1994). Nurse-client interactions in public health. An exploratory study of client needs, nursing interventions, and outcomes. Unpublished manuscript, University of Alberta, Edmonton.

Bickman, L. (Ed.). (1987). The functions of program theory. In Using program theory in evaluation. New Directions for Program Evaluation, 33 (pp. 5-18). San Francisco: Jossey-Bass.

Black, C. (1995). Population health - Broadening information systems. In National Forum on Health, Summary Report. Evidence-based decision-making: A dialogue on health information (p.13). Ottawa, ON: National Forum on Health.

Blair, C. E. (1995). Combining behavior management and mutual goal setting to reduce physical dependency in nursing home residents. Nursing Research, 44(3), 160-165.

Bond, S., & Thomas, L. H. (1991). Issues in measuring outcomes of nursing. Journal of Advanced Nursing, 16, 1492-1502.

Brezlow, L. (1996). Social ecological strategies for promoting healthy lifestyles. American Journal of Health Promotion, 10(4), 253-257.

Brod, M. L., & Hall, S. M. (1984). Joiners and non-joiners in smoking treatment: A comparison of psychosocial variables. Addictive Behaviors, 9, 217-221.

Bunker, J. P., Gomby, D. S., & Kehrer, B. H. (Eds.). (1989). Pathways to health. Menlo Park, CA: Henry J. Kaiser Family Foundation.

Canadian Nurses Association. (1993). Papers from the Nursing Minimum Data Set conference. Ottawa, ON: Author.

Canadian Public Health Association. (1990). Community health ~ public health nursing in Canada. Ottawa, ON: Author.

Capital Health Authority. (1994, September). A new direction for health. Edmonton, AB: Author.

Chalmers, K. I., & Gregory, D. M. (1995). Community health nursing research: Theoretical and practical challenges. In M.J. Stewart (Ed.), Community nursing: Promoting Canadians' health (pp. 600-617). Toronto, ON: W. B. Saunders Canada.

Chalmers, K., & Kristjanson, L. (1989). The theoretical basis for nursing at the community level: A comparison of three models. Journal of Advanced Nursing, 14, 569-574.

Chen, H-T. (1990). Theory-driven evaluations. Newbury Park: Sage.

Chen, H-T., & Rossi, P. H. (1987). The theory-driven approach to validity. Evaluation and Program Planning, 10, 95-103.

Cherkin, D. (1992). Methods and measurement in patient outcomes research: Universal issues. In Department of Health & Human Services, Patient outcomes research: Examining the effectiveness of nursing practice. Proceedings of the State of the Science Conference sponsored by the National Center for Nursing Research (pp. 154-158). Bethesda, MD: Public Health Service, National Institute of Health.

Ciliska, D., Hayward, S., Thomas, H., Mitchell, A., Dobbins, M., Underwood, J., Rafael, A., & Martin, E. (1994). The effectiveness of home visiting as a delivery strategy for public health nursing interventions - A systematic overview (Paper 94-7). Hamilton, ON: Quality of Nursing Worklife Research Unit, McMaster University - University of Toronto.

Clark, J., & Lang, N. (1992). Nursing's next advance: An international classification for nursing practice. International Nursing Review, 39, 109-112, 128.

Clarke, H. F. (1995). Research-based practice in community health nursing. In M. J. Stewart (Ed.), Community nursing: Promoting Canadians' health (pp. 577-599). Toronto, ON: W. B. Saunders Canada.

Collado, C. B. (1992). Primary health care. A continuing challenge. Nursing and Health Care, 13(8), 408-413.

Community Health Information Systems Working Group. (1994). Outcome indicators[1]: A review of the literature and framework for development. Ottawa, ON: Canadian Institute for Health Information.

Combs-Orme, T., Reis, J., & Ward, L. D. (1985). Effectiveness of home visits by public health nurses in maternal and child health: An empirical review. Public Health Reports, 100(5), 490-499.

Conrad, K. J., & Conrad, K. M. (1994). Reassessing validity threats in experiments: Focus on construct validity. In K. J. Conrad (Ed.), Critically examining the role of experiments, New Directions for Program Evaluation, 63 (pp. 5-25). San Francisco: Jossey-Bass.

Cook, T. D., & Campbell, D. T. (1979). Quasi-experimentation. Design and analysis issues for field settings. Boston: Houghton Mifflin.

Cox, C.L. (1982). Behavior: Theoretical prescription for nursing. Advances in Nursing Science, 5(1), 41-56.

DeFriese, G. B. (1990). Theory as method. In L. Seecrest, E. Perrin, & J. Bunker (Eds.), Research methodology: Strengthening causal interpretations of nonexperimental data (pp. 53-55). U. S. Department of Health and Human Services, Public Health Service, Agency for Health Care Policy and Research.

DeFriese, G. H. (1992). Outcomes research: Implications for the effectiveness of nursing practice. In Department of Health & Human Services, Patient outcomes research: Examining the effectiveness of nursing practice. Proceedings of the State of the Science Conference sponsored by the National Center for Nursing Research. Bethesda, MD: Public Health Service, National Institute of Health.

Dilorio, C., Faherty, B., & Manteuffel, B. (1992). The development and testing of an instrument to measure self-efficacy in individuals with epilepsy. Journal of Neuroscience in Nursing, 24(1), 9-13.

Dobson, D., & Cook, T. J. (1980). Avoiding Type III error in program evaluation: Results from a field experiment. Evaluation and Program Planning, 3, 269-276.

Dodge, J. A., & Oakley, D. (1989). Analysing nurse-client interactions in family planning clinics. Journal of Community Health Nursing, 6(19), 37-44.

Doherty, W. J., & Campbell, T. L. (1988). Families and health. Newbury Park: Sage.

Donabedian, A. (1988). Quality assessment and assurance: Unity of purpose, diversity of means. Inquiry, 25, 173-192.

Donaldson, S. K., & Crowley, D.M. (1992). The discipline of nursing. In L. H. Nicoll (Ed.), Perspectives on nursing theory (2nd ed., pp. 204-215). New York: Lippincott. (Original work published 1978)

Emde, R. N. (1988). Risk, intervention and meaning. Psychiatry, 51, 254-259.

Epstein, L. H., McKenzie, S. J., Valoski, A., Klein, K. R., & Wing, R. R. (1994). Effects of mastery criteria and contingent reinforcement for family-based child weight control. Addictive behaviors, 19(2), 135-145.

Feeley, N., & Gerez-Lirette, T. (1992). Development of professional practice based on the McGill model of nursing in an ambulatory care setting. Journal of Advanced Nursing, 17, 801-808.

Gillis, A. J. (1993). Determinants of a health-promoting lifestyle: An integrative review. Journal of Advanced Nursing, 18(3), 345-353.

Gonzalez, V. M., Goeppinger, J., & Lorig, K. (1990). Four psychosocial theories and their application to patient education and clinical practice. Arthritis Care and Research, 3(3), 132-143.

Gottlieb, L., & Rowat, K. (1987). The McGill model of nursing: A practice-derived model. Advances in Nursing Science, 9(4), 51-61.

Green, L. W. (1984). Health education models. In J. D. Matarazzo, J. A. Herd, N.E. Miller, & S. M. Weiss (Eds.), Behavioral health (pp. 181-198). New York: Wiley & Sons.

Green, L. W. (1985). Some challenges to health services research on children and the elderly. Health Services Research, 19(6), 793-815.

Griffiths, P. (1995). Progress in measuring nursing outcomes. Journal of Advanced Nursing, 21, 1092-1100.

Grobe, S. J. (1993). Response to J. C. McCloskey's and G. M. Bulechek's paper on nursing intervention schemes. In Papers from the Minimum Data Set conference (pp. 92-99). Ottawa, ON: Canadian Nurses Association.

Haan, M. N., Kaplan, G. A., & Syme, S. L. (1989). Socioeconomic status and health: Old observations and new thoughts. In J. P. Bunker, D. S. Gomby, & B. H. Kehrer (Eds.), Pathways to health (pp. 76-135). Menlo Park, CA: Henry J. Kaiser Family Foundation.

Hamilton, N., & Bhatti, T. (1996). Population health promotion: An integrated model of population health and health promotion. Ottawa, ON: Health Promotion Development Division, Health Canada.

Hamilton, P. A., & Bush, H. A. (1988). Theory development in community health nursing: Issues and recommendations. Scholarly Inquiry in Nursing Practice, 2(2), 145-159.

Hayward, S., Ciliska, D., Mitchell, A., Thomas, H., Underwood, J., & Rafael, A. (1993). Evaluation research in public health nursing. A background paper for Systematic overviews of the effectiveness of public health nursing interventions. (Paper 93-3) Hamilton, ON: Quality of Nursing Worklife Research Unit, McMaster University - University of Toronto.

Health Canada. (1994). Strategies for population health. Investing in the health of Canadians. Ottawa, ON: Communications Directorate.

Hegyvary, S. T. (1992). Outcomes research: Integrating nursing practice into the world view. In Department of Health & Human Services, Patient outcomes research: Examining the effectiveness of nursing practice. Proceedings of the State of the Science Conference sponsored by the National Center for Nursing Research (pp. 19-26). Bethesda, MD: Public Health Service, National Institute of Health.

Hickey, M. L., Owen, S. V., & Froman, R. D. (1992). Instrument development: Cardiac diet and exercise self-efficacy. Nursing Research, 41(6), 347-351.

Hinshaw, A. S. (1992). Welcome. Patient outcomes research conference. In Department of Health & Human Services, Patient outcomes research: Examining the effectiveness of nursing practice. Proceedings of the State of the Science Conference sponsored by the National Center for Nursing Research (pp. 9-10). Bethesda, MD: Public Health Service, National Institute of Health.

Holden, G. (1991). The relationship of self-efficacy appraisals to subsequent health related outcomes: A meta-analysis. Social Work in Health Care, 16(1), 53-93.

Holmes, D., Teresi, J., & Ory, M. (1993). Serendipity and pseudoscience. A look at health-related program evaluation. Evaluation and the Health Professions, 16(4), 363-378.

House, E. R. (1994). Integrating the quantitative and qualitative. In C. S. Reichardt & S. F. Rallis (Eds.), The qualitative-quantitative debate: New perspectives. New Directions for Program Evaluation, 61 (pp. 13-22). San Francisco: Jossey-Bass.

Jennings, B. M. (1991). Patient outcomes research: Seizing the opportunity. Advances in Nursing Science, 14(2), 59-72.

Jensen, K., Banwart, L., Popkess-Vawter, S., & Perkins, S. B. (1993). Advanced rehabilitation nursing care of coronary angioplasty patients using self-efficacy theory. Journal of Advanced Nursing, 18, 926-931.

Kass, L. R. (1978). Regarding the end of medicine and the pursuit of health. In R. M. Hutchins & M.J. Adler (Eds.), The great ideas today (pp. 72-103). Chicago: Encyclopedia Brittanica.

Keller, M. J. (1981). Toward a definition of health. Advances in Nursing Science, 10, 43-64.

Kemm, J. R. (1993). Towards an epidemiology of positive health. Health Promotion International, 8(2), 129-134.

Koepsell, T. D., Wagner, E. H., Cheadle, A. C., Patrick, D. L., Martin, D. C., Diehr, P. H., Perrin, E. B., Kristal, A. R., Allan-Andrilla, C. H., & Dey, L. J. (1992). Selected methodological issues in evaluating community-based health promotion and disease prevention programs. Annual Review of Public Health, 13, 31-57.

Kristjanson, L., & Chalmers, K. (1990). Nurse-client interactions in community-based practice: Creating common ground. Public Health Nursing, 7(4), 215-223.

Labonte, R. (1994). Health promotion and empowerment: Reflections on professional practice. Health Education Quarterly, 21(2), 253-268.

Laffrey, S. C., & Craig, D. M. (1995). Health promotion for communities and aggregates: An integrated model. In M. J. Stewart (Ed.), Community nursing: Promoting Canadians' health (pp. 125-145). Toronto, ON: W. B. Saunders Canada.

Laffrey, S. C., Loveland-Cherry, C. J., & Winkler, S. J. (1986). Health behavior: Evolution of two paradigms. Public Health Nursing, 3(2), 92-100.

Laffrey, S. C., Renwanz-Boyle, A., Slagle, R., Guthmiller, A., & Carter, B. (1990). Elderly clients' perceptions of public health nursing care. Public Health Nursing, 7(2), 111-117.

Lalonde, M. (1974). A new perspective on the health of Canadians: A working document. Ottawa, ON: Government of Canada.

LaMontagne, L. L., Johnson, B. D., & Hepworth, J. T. (1995). Evolution of parental stress and coping processes: A framework for critical care practice. Journal of Pediatric Nursing, 10(4), 212-218.

Lang, N. M., & Marek, K. D. (1991). The policy and politics of patient outcomes. Journal of Nursing Quality Assurance, 5(2), 7-12.

Lang, N. M., & Marek, K. D. (1992). Outcomes that reflect clinical practice. In Department of Health & Human Services, Patient outcomes research: Examining the effectiveness of nursing practice. Proceedings of the State of the Science Conference sponsored by the National Center for Nursing Research (pp. 27-38). Bethesda, MD: Public Health Service, National Institute of Health.

Lawrance, L., Levy, S. R., & Rubinson, L. (1990). Self-efficacy and AIDS prevention for pregnant teens. Journal of School Health, 60(1), 19-24.

Lindeman, C. A. (1984). Theory and research as basic to nursing practice. In American Nurses Association, Issues in professional nursing practice (pp. 1-19). Kansas City, MO: ANA.

Lipsey, M. W. (1990). Theory as method: Small theories of treatments. In L. Seecrest, E. Perrin, & J. Bunker (Eds.), Research methodology: Strengthening causal interpretations of nonexperimental data (pp. 33-51). U. S. Department of Health and Human Services, Public Health Service, Agency for Health Care Policy and Research.

Lipsey, M. W., Crosse, S., Dunkle, J., Pollard, J., & Stobart, G. (1985). Evaluation: The state of the art and the sorry state of the science. In D. S. Cordray (Ed.), Utilizing prior research in evaluation planning. New Directions for Program Evaluation, 27 (pp. 7-27). San Francisco: Jossey-Bass.

Lohr, K. M. (1988). Outcome measurement: Concepts and questions. Inquiry, 25, 37-50.

Luker, K. A. (1978). Goal attainment. A possible model for assessing the role of the health visitor. Nursing Times, July 27, 1257-1259.

Luker, K. A., & Chalmers, K. I. (1990). Gaining access to clients: the case of health visiting. Journal of Advanced Nursing, 15, 74-82.

Marek, K. D. (1989). Outcome measurement in nursing. Journal of Nursing Qualfty Assurance, 4(1), 1-9.

Marek, K. D., & Lang, N. M. (1993). Nursing sensitive outcomes. In Papers from the Nursing Minimum Data Set conference (pp. 100-120). Ottawa, ON: Canadian Nurses Association.

Mark, B. A. (1995). The black box of patient outcomes research. Image: Journal of Nursing Scholarship, 27(1), 42.

Marsh, J. C., & Wirick, M. A. (1991). Evaluation of Hull House teen pregnancy and parenting program. Evaluation and Program Planning, 14, 49-61.

McBride, C. M., Pirie, P. L., & Curry, S. J. (1992). Postpartum relapse to smoking: A prospective study. Health Education Research, 7(3), 381-390.

McCloskey, J. C., & Bulechek, G. M. (1993). Nursing intervention schemes. In Papers from the Minimum Data Set conference (pp. 77-91). Ottawa, ON: Canadian Nurses Association.

Mechanic, D. (1989a). Socioeconomic status and health: The problem. In J. P. Bunker, D. S. Gomby, & B. H. Kehrer (Eds.), Pathways to health (pp. 3-8). Menlo Park, CA: Henry J. Kaiser Family Foundation.

Mechanic, D. (1989b). Socioeconomic status and health: An examination of underlying processes. In J. P. Bunker, D. S. Gomby, & B. H. Kehrer (Eds.), Pathways to health (pp. 9-26). Menlo Park, CA: Henry J. Kaiser Family Foundation.

Meleis, A. I. (1991). Theoretical nursing. Development and progress (2nd ed.). Philadelphia: Lippincott.

Murdaugh, C. (1992). Quality of life, functional status, patient satisfaction. In Department of Health & Human Services, Patient outcomes research: Examining the effectiveness of nursing practice. Proceedings of the State of the Science Conference sponsored by the National Center for Nursing Research (pp. 91-96). Bethesda, MD: Public Health Service, National Institute of Health.

National Forum on Health. (1995). Summary Report. Evidence-based decision making: A dialogue on health information. Ottawa, ON: Author.

Naylor, M. D., Munro, B. H., & Brooten, D. A. (1991). Measuring the effectiveness of nursing practice. Clinical Nurse Specialist, 5(4), 210-215.

Neufeld, A., & Harrison, M.J. (1994). Use of nursing diagnosis with population groups. Nursing Diagnosis, 5(4), 165-171.

Nightingale, F. (1969). Notes on nursing. New York: Dover. (Original work published 1860)

Oetker-Black, S. L., & Taunton, R. L. (1994). Evaluation of a self-efficacy scale for preoperative patients. AORN Journal, 60(1), 43-50.

Olds, D. L., Henderson, C. R. Jr., Chamberlin, R., & Tatelbaum, R. (1986). Preventing child abuse and neglect: A randomized trial of nurse home visitation. American Journal of Public Health, 78(11), 1436-1445.

Olds, D. L., Henderson, C. R. Jr., & Kitzman, H. (1994). Does prenatal and infancy nurse home visitation have enduring effects on qualities of parental caregiving and child health at 25 to 50 months of life? Pediatrics, 93(1), 89-98.

Olds, D. L., Henderson, C. R. Jr., Phelps, C., Kitzman, H., & Hanks, C. (1993). Effect of prenatal and infancy nurse home visitation on government spending. Medical Care, 31(2), 155-174.

Olds, D. L., Henderson, C. R. Jr., Tatelbaum, R., & Chamberlin, R. (1986). Improving the delivery of prenatal care and outcomes of pregnancy: A randomized trial of nurse home visitation. Pediatrics, 77(1), 16-28.

Olds, D. L., Henderson, C. R. Jr., Tatelbaum, R., & Chamberlin, R. (1988). Improving the life-course development of socially disadvantaged mothers: A randomized trial of nurse home visitation. American Journal of Public Health, 78(11), 1436-1445.

Olds, D. L., Kitzman, H. (1990). Can home visitation improve the health of women and children at environmental risk? Pediatrics, 86(1), 108-116.

Orth-Gomer, K., & Unden, A. L. (1987). The measurement of social support in population surveys. Social Science and Medicine, 24, 83-94.

Ozbolt, J. G. (1992). Strategies for building nursing data bases for effectiveness research. In Department of Health & Human Services, Patient outcomes research: Examining the effectiveness of nursing practice. Proceedings of the State of the Science Conference sponsored by the National Center for Nursing Research (pp. 210-218). Bethesda, MD: Public Health Service, National Institute of Health.

Padgett, D. K. (1991). Correlates of self-efficacy beliefs among patients with non-insulin dependent diabetes mellitus in Zagreb, Yugoslavia. Patient Education and Counselling, 18(20), 139-147.

Parcel, G. S., Edmundson, E., Perry, C. L., Feldman, H. A., O'Hara-Tompkins, N., Nader, P. R., Johnson, C. C., & Stone, E. J. (1995). Measurement of self-efficacy for diet-related behaviors among elementary school children. Journal of School Health, 65(1), 23-27.

Patrick, D. L., & Bergner, M. (1990). Measurement of health status in the 1990s. Annual Review of Public Health, 11, 165-183.

Patton, M. Q. (1990). Qualitative evaluation and research methods (2nd ed.). Newbury Park: Sage.

Pless, I., Feeley, N., Gottlieb, L., Rowat, K., Dougherty, G., & Willard, B. (1994). A randomized trial of a nursing intervention to promote the adjustment of children with chronic physical disorders. Pediatrics, 94(1), 70-75.

Plough, A., & Olafson, F. (1994). Implementing the Boston Healthy Start Initiative. A case study of community empowerment and public health. Health Education Quarterly, 21(2), 221-234.

Polifroni, E. C., & Packard, S. A. (1995). Explanation in nursing science. Canadian Journal of Nursing Research, 27(2), 35-44.

Reichardt, C. S., & Rallis, S. F. (Eds.). (1994). The relationship between the qualitative and quantitative research traditions. In The qualitative-quantitative debate: New perspectives, New Directions for Program Evaluation, 61 (pp. 5-11). San Francisco: Jossey-Bass.

Rettig, R. (1991). History, development, and importance to nursing of outcomes research. Journal of Nursing Quality Assurance, 5(2), 13-17.

Rovers, R., & Isenor, L. (1988). Mothers' perceptions and use of community health services during the postpartum. Public Health Nursing, 5(4), 193-200.

Ryan, P., & Delaney, C. (1995). Nursing minimum data set. In J. J. Fitzpatrick & J. S. Stevenson (Eds.), Annual Review of Nursing Research, 13, 169-194.

Saba, V. K. (1988). Classification schemes for nursing information systems. In N. Daly & K. J. Hannah (Eds.), Proceedings of Nursing and Computers. Third international symposium on nursing use of computers and information in science (pp. 184-193). St. Louis, MO: Mosby.

Saba, V. K. (1993). Nursing diagnostic schemes. In Papers from the Minimum Data Set conference (pp. 54-63). Ottawa, ON: Canadian Nurses Association.

Scheirer, M. A. (1987). Program theory and implementation theory: Implications for evaluators. In L. Bickman (Ed.), Using program theory in evaluation. New Directions for Program Evaluation, 33 (pp. 59-75). San Francisco: Jossey-Bass.

Schunk, D. H., & Carbonari, J. P. (1984). Self-efficacy models. In J. D. Matarazzo, J. A. Herd, N.E. Miller & S. M. Weiss (Eds.), Behavioral health (pp. 230-247). New York: Wiley & Sons.

Schwab, J. J. (1964). Problems, topics, and issues. In S. Elam (Ed.), Education and the structure of knowledge (pp. 4-43). Chicago: Rand McNally.

Scriven, M. (1994). Evaluation as a discipline. Studies in Educational Evaluation, 20, 147-166.

Shadish, W. R., Cook, T. D., & Houts, A. C. (1986). Quasi-experimentation in a critical multiplist mode. In W. M. K. Trochim (Ed.), Advances in quasi-experimental design and analysis. New Directions for Program Evaluation, 31 (pp. 29-46). San Francisco: Jossey-Bass.

Shamian, J. (1993). Response to K. D. Marek's and N. M. Lang's paper on nursing sensitive outcomes. In Papers from the Minimum Data Set conference (pp. 121-126). Ottawa, ON: Canadian Nurses Association.

Sidani, S., & Braden, C. J. (1998). Evaluating nursing interventions. A theory-driven approach. Thousand Oaks, CA: Sage.

Smith, J. (1981). The idea of health and philosophical inquiry. Advances in Nursing Science, 3, 43-50.

Smith, M. L. (1994). Qualitative plus/versus quantitative: The last word. In C. S. Reichardt & S. F. Rallis (Eds.), The qualitative-quantitative debate: New perspectives. New Directions for Program Evaluation, 61 (pp. 37-43). San Francisco: Jossey-Bass.

Stanton, M. P., Dittmar, S. S., Wooldridge, P., & Kuo, L. (1992). Relationship of select psychosocial and program variables on smoking cessation. Health Values, 16(5), 10-18.

Stewart, M. J. (1990). From provider to partner: A conceptual framework for nursing education based on primary health care premises. Advances in Nursing Science, 12(2), 9-27.

Stewart, M. J. (1993). Integrating social support in nursing. Newbury Park, CA: Sage.

Stewart, M. J. (Ed.). (1995). Social support, coping, and self-care: Public participation concepts. In Community Nursing: Promoting Canadians' health (pp. 89-124). Toronto: W. B. Saunders Canada.

Stokols, D., Allen, J., & Bellingham, R. L. (1996). The social ecology of health promotion: Implications for research and practice. American Journal of Health Promotion, 10(4), 247-251.

Strecher, V. J. , DeVellis, B., Becker, M. H., & Rosenstock, I. M. (1986). The role of self-efficacy in achieving health behavior change. Health Education Quarterly, 13(1), 73-91.

Strickland, O. L. (1992). Measures and instruments. In Department of Health & Human Services, Patient outcomes research: Examining the effectiveness of nursing practice. Proceedings of the State of the Science Conference sponsored by the National Center for Nursing Research (pp. 145-153). Bethesda, MD: Public Health Service, National Institute of Health.

Thibaudeau, M. F., & Reidy, M. M. (1977). Nursing makes a difference: A comparative study of the health behavior of mothers in three primary care agencies. International Journal of Nursing Studies, 14, 97-107.

Tripp-Reimer, T. (1984). Reconceptualizing the construct of health: Integrating emic and etic perspectives. Research in Nursing and Health, 7, 101-109.

Tripp-Reimer, T., Woodworth, G., McCloskey, J. C., & Bulechek, G. (1996). The dimensional structure of nursing interventions. Nursing Research, 45(1), 10-17.

Vahldieck, R. K., Reeves, S. R., & Schmelzer, M. (1989). A framework for planning public health nursing services to families. Public Health Nursing, 6(2), 102-107.

Wald, L. D. (1915). The house on Henry Street. New York: Henry Holt.

Wald, L. D. (1934). Windows on Henry Street.. Boston: Little Brown.

Wallerstein, N. (1992). Powerlessness, empowerment, and health: Implications for health promotion programs. American Journal of Health Promotion, 6(3), 197-205.

Waltz, C. F., & Sylvia, B. M. (1991). Accountability and outcome measurement: Where do we go from here? Clinical Nurse Specialist, 5(4), 202-203.

Webster-Stratton, C., Glascock, J., & McCarthy, A. M. (1986). Nurse practitioner-patient interactional analyses during well-child clinics. Nursing Research, 35(4), 247-249.

Weisman, C.S. (1992). Nursing practice models: Research on patient outcomes. In Department of Health & Human Services, Patient outcomes research: Examining the effectiveness of nursing practice. Proceedings of the State of the Science Conference sponsored by the National Center for Nursing Research (pp. 112-120). Bethesda, MD: Public Health Services, National Institute of Health.

Wholey, J. S. (1987). Evaluability assessment: Developing program theory. In L. Bickman (Ed.), Using program theory in evaluation. New Directions for Program Evaluation, 33 (pp. 77-92). San Francisco: Jossey-Bass.

Wigal, J. K., Creer, T. L., & Kotses, H. (1991). The COPD self-efficacy scale. Chest: the Cardiopulmonary Journal, 99(5), 1193-1196.

Witter-DuGas, B., & Knor, E.R. (1995). Nursing foundations. A Canadian perspective. Scarborough, ON: Appleton & Lange Canada.

World Health Organisation (1947). The constitution of World Health Organisation, WHO Chronicle, 1, 29.

World Health Organisation, Health & Welfare Canada, & Canadian Public Health Association. (1986). Ottawa charter for health promotion. An International Conference on Health Promotion. The move towards a new public health. November 17-21. Ottawa, Canada.

Wolfson, M. (1995). A comprehensive information data system which could monitor and track population health. In National Forum on Health, Summary Report. Evidence-based decision-making: A dialogue on health information (p.15). Ottawa, ON: Author.

Wyszewianski, L. (1988). Quality of care: Past achievements and future challenges. Inquiry, 25, 13-22.

APPENDIX B

Methods and Procedures

METHODS AND PROCEDURES

Research Design

A descriptive-comparative, deductively oriented, qualitative design was used in this study. Ethnographic techniques were employed in conducting interviews and analysing data. Descriptive studies contribute to theory building by clarifying concepts and generating relationships (Brink & Wood, 1989). Deductively oriented field studies are appropriate when concepts have been fairly well delineated prior to the data collection phase, and an explanatory stance is taken by the researcher in the process of data analysis (Huberman & Miles, 1994; Miles & Huberman, 1994). Relationships among structure, process and outcome dimensions of the Postpartum Program were explored in each of two approaches to program delivery (i.e. the McGill and non McGill service delivery models). The intent had been to describe the differences that occurred among those relationships when nursing practice was guided by an overt conceptual model, which enhances nurses' ability to explain their actions on the basis of well-defined expected outcomes. In earlier research (Besner, 1994), the process whereby nurses and clients develop expectations about the outcome of public health nursing contacts had been examined. It was observed in that study that mutual goal setting between nurses and clients seldom occurred at the outset of interactions, but despite that, nurses did positively influence client coping and health decision making. It appeared that positive outcomes were achieved primarily because nurses provided needed support to clients, but there was no indication from that study that improving client self-efficacy and problem solving ability were manifest goals of practice.

The program as delivered in the agency in which the current study was conducted did not have an explicit theoretical underpinning guiding the practice of public health nurses. To better understand whether and how practising from a model of nursing that was consistent with primary health care principles might influence what actually went on in the program, three of the study nurses were taught to use the McGill Model of Nursing at the outset of the study, while the other three continued to practice according to their own implicit model. Data were initially analysed separately for each of the two service delivery models, and later compared across the two groups. To answer the research questions, both qualitative and quantitative methods of data collection and analysis were employed.

Data Collection Techniques

Data collection methods included the acquisition of client demographic and social information, captured in quantitative format. Additional client information was obtained through interviews with participants, and review of nurses' documentation about their contacts with clients. The potential influence on program processes and outcomes of client factors such as age, income, perceived social support and coping ability were captured using the Demographic Client Data Form (pp. 207-208). This information was used to determine whether specific client factors could be isolated, which would elucidate why certain nursing activities occurred and intended outcomes were (or were not) achieved. Selected components (e.g. home visit, telephone contact) and strength (i.e. frequency and duration) of the program were collected using the Postpartum Program Case Contact Client Data Form (pp. 210-211).

The majority of data were collected through face-to-face interviews. Semi-structured open-ended interviews with Public Health Nurses (pp. 213-215) were conducted to assess:

a) perceptions of the degree to which it is possible to actually carry out desired aspects of the program
b) factors believed to influence nursing actions and outcomes with specific clients
c) whether explicit program goals are believed to facilitate or hinder program delivery.

Structured interview formats enhance comparability of responses and facilitate organisation and analysis of data. Since they may also constrain answers (Patton, 1990), the investigator added questions that emerged from the immediate context as relevant. Following an initial interview to elicit overall perceptions about the program, additional interviews were conducted with the public health nurse at the time of discharge of each of her clients from the program.

Semi-structured open-ended interviews were also conducted with participating clients (pp. 217-220) on three occasions: 1) shortly after entry into the program, 2) when the infant was approximately two months of age (the "official" time of exit from the program), and 3) at about six months (at which time all infants had been seen in well-child clinics, and all but two had received the third dose in the immunisation series). The focus of the first interview was to document clients' health related goals and aspirations in relation to parenting in the first year of the infant's life. The second interview assessed a) the degree to which, and possible reasons why, intended and unintended goals were or were not met to that point, and b) general level of satisfaction with program outcomes. The last interview was conducted to determine whether additional effects attributed to the postpartum program were reported by clients, and to elicit any further perceptions about the program. This was meant to provide information about program effects of significance to clients. Although it had originally been planned to conduct face-to-face interviews with clients on all three occasions, it was determined early on in the project that telephone interviews would be adequate for the final interview, since it was expected (on the basis of a selected number of second interviews) that little new information about the postpartum program would emerge. Ethical approval had been obtained for telephone interviews, and this medium was therefore used for the third interview, as a means of keeping project costs to a minimum.

Small notebooks were provided to clients by the researcher during the initial interview conducted in the client's home. Clients were asked to record the date, purpose, and duration of subsequent calls made to a public health nurse or to the after hours Hotline, one of the services provided by the program. Clients were also asked to document any clinic visits made to the health centre before the infant reached two months of age, at which time the program "officially" terminates. Information documented by clients was transferred by the researcher onto the data collection tool (Calls to Hotline and Drop-in visits to Health Centre, p. 211) that had been devised for that purpose, and entered into SPSS along with other case contact data gathered on each client.

Field notes or memos were maintained throughout the research process (Field & Morse, 1985). Field notes are a quintessential ingredient of qualitative studies, and contain the observer's insights, reflections about what is occurring during interviews or other forms of observation, and documentation of the significance of those events (Patton, 1990). They are recorded at the time they are experienced by the researcher (Field & Morse, 1985). Memos were entered into a tree-structured index system using the QSR NUD*IST computer program for qualitative analysis (Qualitative Solutions and Research, 1996) and provided a chronological record of decisions made in relation to emerging ideas and data categories.

Determination of the logical relationships that exist among client needs and goals, nursing actions, and outcomes was facilitated by asking nurses to document how their activities were presumed to relate to outcomes, using the Needs-Actions-Outcomes Tracking Sheet (p. 222). The form was useful in verifying the fact that nurses were very problem focussed in their interactions with clients, and adopted a bio-medical approach to needs assessment. After initial examination of data collected on the form, it was decided that no benefit would accrue from entering the data as off-line documentation for the purpose of analysis. Data were therefore not incorporated in analysis or otherwise used in this research. Assessment of the degree to which nurses in the McGill group maintained fidelity to the model, and those in the other program condition adhered to agency protocol in the process of delivering services was aided by reference to the Guide to Conducting a Review of the Tracking Sheet (pp. 224-225). As previously noted, there was little difference in nursing practice across the two groups.

To assess the suitability of data collection tools for the aims of this study, a pilot comprising three client interviews, and a review of client records and other documentation procedures (e.g. tracking of calls to the postpartum program Hotline) was conducted with the permission and support of the agency where the research was carried out. The pilot revealed no particular deficiencies in the interview questionnaires or format, but led to some revisions of the Demographic Client Data Form, and the development of the Participant Selection Fact Sheet (p. 227), which was filled out by nurses on each new postpartum client on the nurses' caseload. The information was used to select clients representing the typical range of clients served by the program. The pilot also revealed that at least some clients appeared to make fairly extensive use of the Hotline, occasionally initiated calls to the nurse, or "dropped in" to the health centre for unscheduled visits in the first two months following hospital discharge, but these were often not documented on client records. It was thus decided to ask clients to track the total amount of contact time they had with the program, excluding scheduled home visits by the nurse. The dates of client recorded contacts were then verified against the Case Contact Client Data Form, to ensure that data provided by clients did not duplicate information entered by the nurse.

Ethical Considerations

Ethical clearance for this project was obtained from the Faculty of Nursing, University of Alberta, and from the participating agency. Access to nurse participants was achieved by meeting with health centre managers, who presented the purpose and general details of the study to public health nursing staff. Interested volunteers notified the researcher directly, and were selected on the basis of their commitment to the project and their willingness to share information with the researcher. Participation by public health nurses and clients in this study was entirely voluntary. Signed consent (pp. 234-237) was obtained for each participant. A copy of the consent was left with participants.

A participant information fact sheet (pp. 239-240) was given to participating nurses to share with new postpartum clients. Public health nurses briefly explained the study to interested individuals. Those willing to be considered for the study informed the nurse that she could invite the researcher to contact them by phone to set up an initial interview. After discussing the aims of the research with interested clients, a signed consent was obtained at the first interview with those who agreed to participate in the study. Public health nurses were assured that strict confidentiality would be maintained in terms of nursing practice assessed in the conduct of this study.

In accordance with University of Alberta policy, all recorded and transcribed material will be retained by the investigator for a minimum of seven years. Code numbers were used on all transcribed material to ensure confidentiality. No identifying information has been kept on any material. The list linking identifying names with code numbers has been kept separate from the data. Consent forms will be retained for a five year period, and will be stored separate from other data collection forms.

Consent was obtained from study participants to use the data for secondary analysis by the researcher or by other investigators at some future time. If secondary analysis of data is planned, prior approval will be obtained by an ethics review committee.

Procedures

All clients and nurses were interviewed by the researcher at the time and in the location that was most suitable to them. Clients all chose to be interviewed in their homes, and all nurse interviews were conducted at their respective health centre. Husbands or partners were invited to be present during the interview when the initial telephone call was made by the researcher to schedule appointments with clients. Only three clients scheduled the interviews when the husband could be present. Interviews were taped and transcribed verbatim with the help of a transcriber/typist.

Sample

The participants in this research were six public health nurses involved in delivery of the Postpartum Program in a large urban setting, and 25 clients from a range of backgrounds and socio-economic groups. Volunteer sampling was used to recruit the six public health nurses from among the total complement of nurses employed in program delivery. Inclusion criteria included 1) at least three years' experience in working with postpartum families; 2) a baccalaureate degree in nursing; 3) skill, knowledge, and ability in delivering program services as per agency expectations; and 4) willingness to participate in the study. Health Centre managers were introduced to the purpose of the study, and were asked to invite nurses in their health centre to volunteer for participation. A poster explaining the overall purpose of the project was developed by the researcher, and used by managers to advertise the study in each health centre. The involvement of managers in the recruitment process was considered the best means to ensure that study nurses would meet the inclusion criteria. Their participation was also intended to maximize the likelihood that the nurse sample, while solicited, would nonetheless be representative of the "typical" nurse sought by managers when recruiting staff for the Postpartum Program. Three nurses were recruited for the McGill group and three for the non-McGill program delivery condition. Assignment to the McGill group was determined by the nurses' commitment to learning the model and willingness to attend orientation sessions as well as ongoing group discussions as the study progressed, if considered necessary by nurse participants. Approval from nurse managers was required for inclusion in the McGill group, since it was assumed that learning the model and practising according to its precepts might increase service delivery time, at least initially. One nurse was selected from each of six health centres included in this study, located in different sections of the city to increase the likelihood of representation by a diversity of clients. Six of the seven nurses who indicated interest in participating in the study were enrolled.

Once recruited, nurses were asked to inform all new postpartum clients on their respective caseloads of the study, and request permission to have the researcher contact them to explain the research project in detail, and invite participation as appropriate. Desired client profiles were established by the investigator *a priori*, to ensure that a comparable range of clients would be recruited for the two service delivery conditions. Inclusion criteria ensured that clients would be recruited who 1) spoke English; 2) represented a range of socio-economic and educational backgrounds; and 3) differed in terms of parity and family structure. All volunteer clients meeting the criteria were considered by the researcher, until a sufficient number of clients had agreed to participate. Twelve (12) clients were eventually recruited for the non-McGill program condition, and thirteen for the McGill group.

Seven of the clients who had been informed of the study by participating public health nurses were excluded from the study before conducting a first interview. Of these, one was rejected by the researcher because her profile was too similar to that of clients recruited to that point in the study. Two married, first-time mothers who had initially indicated interest in participating in the study declined at the time the first interview was scheduled, due to feeling overwhelmed with their new responsibilities. Another two unmarried, first-time mothers were excluded by the researcher, because of repeated failed efforts to schedule interview appointments, suggesting a lack of commitment to the study. One multiparous, separated client was ill for the first two weeks after the birth of her infant, and the decision was made to exclude this client to avoid adding unnecessarily to her stress level. Of all the eligible clients on the public health nurses' caseload, only one declined outright to have the researcher contact her to receive additional information about the study. Interest in the research was obviously fairly high on the part of postpartum clients.

In addition, two clients who consented to participate, and who were interviewed by the researcher on one occasion, were excluded prior to conducting the second interview. In the first instance, the client declined further participation when contacted for the second interview, and in the other, the researcher excluded the client due to language difficulties which had surfaced during the first interview. In working through a translator subsequent to the first interview, it had become obvious that the client had not sufficiently understood the purpose of the research, and it was clear that informed consent to participate had not been obtained. A mutual decision was made by the researcher and client to terminate participation in the study at that point.

Client interviews were conducted during the period February 11 (first interview with client 001) to November 13, 1997 (third interview with client 027). First interviews with the six public health nurses occurred between January 28 and April 3, while client-specific nurse interviews were conducted from April 17 to September 9, 1997. All but two clients were interviewed on three separate occasions, the last interview being conducted by telephone in all cases. Two clients were interviewed twice only - one because it had been decided by the client and researcher at the time of the second interview that a third interview would not provide additional information, and the other because the client could not be located.

Nurse characteristics.

All six of the study nurses had baccalaureate degrees in nursing and were Certified Lactation Consultants. Two had qualified as midwives in the past. Length of time in public health nursing practice ranged from one to 20 years (mean 10.2), and all were experienced in the provision of services to postpartum families. These nurses had chosen to work in the Postpartum Program out of interest, a sense of confidence in their ability to perform the work well, and a feeling that they were providing a valuable service to families.

The three nurses assigned to the McGill group had expressed interest in learning more about this model of practice. They were provided with a package of written information (relevant journal articles and summarised information about the McGill Model of Nursing) as a means of introducing them to the model. Subsequently, they attended two half-day orientation sessions (one in October, 1996 and the other in January, 1997), facilitated by a graduate student in nursing who had expertise with the model. Topics covered during the first workshop included

- *major units of a conceptual model of nursing*: goal of nursing, recipient of care, role of the nurse, focus and modes of intervention, outcome of nursing activities.
- *assumptions of the McGill Model*: health versus illness focus, health as a learned activity and a phenomenon of family, and nursing as a primary health resource for families and communities.
- *introduction to specific concepts of the McGill Model*: i) goal of nursing is the promotion of health within the context of family; ii) the role of the nurse is to partner and collaborate with the family in their quest for health; iii) particular life events require coping or present challenges in achieving life goals; iv) the focus of intervention is to structure an environment that promotes participatory learning on the part of both the family and the nurse.

- *modes of intervention*: negotiation, collaboration, co-ordination.
- *outcomes of nursing activities*: decreased anxiety, improved coping, effective utilization of resources, decreased stress, and enhanced problem-solving.

The second workshop provided an opportunity for nurses to ask questions about topics which had been covered earlier, to participate in role playing around specific examples of care situations, and to discuss any concerns that had arisen in previous months, during which time they had "experimented" to a limited extent with implementing the model in practice. All three nurses indicated a fair degree of comfort with the model, which they perceived to be very consistent with their usual approach to practice. They indicated that they felt reasonably well prepared to remain faithful to its precepts once the study was underway. The facilitator remained available throughout the duration of data collection, to provide assistance in dealing with the implementation of the model as the need arose. She was consulted by one of the study nurses on one occasion only.

Client characteristics.

Evaluation of effectiveness must be based on knowledge of the recipients for whom a health care program has been designed, since individual client differences can explain much of the variability in the outcome of selected interventions (Sidani & Braden, 1997). Demographic client data for this study were collected by the researcher at the time of the first client interview, which was conducted within the first two weeks following the baby's birth (range 2 to 15 days, mean 9). Information was sought about such factors as the client's marital status and living arrangements, education, family income, perceived ability to meet the infant and family's needs and cope with the stresses of transition, and sources of support. Data were collected using the "Demographic Client Data Form" (p. 207-208), which also captured information about pre-natal class attendance, age of infant at discharge from hospital, and length of stay in the Postpartum

Program (i.e. from intake to termination of contact by the public health nurse).

Two clients had participated in an antenatal program offered through the health centre for women at risk of poor pregnancy outcomes due to age and/or socio-economic factors. Both of these individuals were single teenage mothers, and clients of the same nurse (non-McGill group). Maternal age at the time of delivery ranged from 17 to 41 years in the non-McGill group, and from 20 to 41 years in the other. Almost two-thirds (7 of 12) of the women in the non-McGill group had Grade 12 education or less, compared to five of 13 women in the other group. Five women in the non-McGill group had obtained post high school diplomas or degrees in a Trade School/College (1) or University (4), compared to eight in the McGill group (3 in College, 5 in University).

A larger proportion of clients in the non-McGill (5 of 12) than in the McGill group (3 of 13) had family incomes below $20,000 annually, but a similar proportion had incomes greater than $40,000 (4 and 5, respectively). Data were unavailable for one family (McGill group) who declined to give information on income. The differences in education and income among the two groups are largely explained by the fact that three of the women in the non-McGill group were less than 20 years of age.

The number of single women was the same (3) in both groups. The majority of clients were either married (8 and 9, respectively) or living in stable common-law relationships (1 in each group). A large proportion in both groups were first time mothers (8 in the non-McGill group and 6 in the other). Women in the McGill group (6) were more likely to have attended pre-natal class than those in the other group (2 - missing data for one case). Seven of the 14 first time mothers recruited for this study had not attended pre-natal classes.

All of the women felt satisfied with their perceived coping ability at the time of the first interview, and only one hinted at a lack of adequate emotional support. Two of the clients were receiving social assistance, and a few were being helped by parents, with additional support from the baby's father. One teenage client stated she had no source of income.

It had been hoped that clients in the two groups (i.e. McGill and non-McGill) could be matched as closely as possible on all demographic characteristics. This was more challenging than had been anticipated. As much as possible, nurses were assigned to each of the two service delivery conditions to reflect similarities and differences in socio-economic strata in various regions of the city. In some cases, the mix of clients on each nurse's caseload was less variable over the period of data collection than might have been expected, but nurses nonetheless noted that the clients selected for study reflected the "typical" range of clients served by the program in each of their health centres.

Data Analysis

Quantitative data on client demographics and case contact time, collected on the Case Contact Client Data forms (pp. 210-211), were entered into SPSS 6.1 for Windows and analysed using descriptive statistics such as frequencies and measures of central tendency. Data were analysed separately for each of the two service delivery approaches, and were then summarised for descriptive purposes. The descriptive client data allowed a determination to be made that the sample of clients in each of the two models of service delivery were relatively comparable, although some differences were found. Since nursing practice was not substantially different between the two practice conditions, the lack of absolute comparability in the client sample was of no practical consequence during data analysis.

Taped interviews were transcribed verbatim by a qualified transcriber/typist. Processed documents were reviewed for completeness by the researcher (by reading the transcript while listening to the taped interview), corrections were made as necessary, and the record was saved in ASCII format. The documents were then introduced into NUD*IST, a software computer package designed for qualitative data storage, indexing, and theorising (Qualitative Solutions and Research, 1996).

Each document was carefully read again, and codes were affixed to relevant sections of data. Since the purpose of the study was to establish a relationship among client factors and needs, organisational factors (including provider characteristics), nursing actions, and outcomes, the first level of coding segmented data into five broad categories (called nodes in the NUD*IST system). These were labelled Biographical Factors (client and provider), Client Needs (as described by nurses and clients), Organisational Factors, Nurse and Client Actions, and Outcomes. The researcher's reflections about the material subsumed within each node were captured in NUD*IST's node memos. A major theme which recurred in many of the documents related to the quality of the nurse-client interaction, which was added as a major node or category, to capture client and nurse comments about this aspect of program delivery. Subsequent coding was then carried out to classify sub-themes which emerged in each major category. Coding ended when it was felt that all sections of transcribed data were adequately captured within the categories that emerged (Miles & Huberman, 1994).

As the study progressed, it became obvious that the practice of nurses in the McGill group had not been substantially transformed by their orientation to this model of nursing. No major differences in codes or themes were noted between the two practice delivery models. The following section provides a brief example of the process used to sort and sift through materials to identify similarities, relationships, patterns, themes, differences and commonalities (Miles & Huberman, 1994). The complete "tree structure" which emerged through the process of successive coding is provided on pages 229 to 232.

Node — **Node Label** — **Service Delivery Group**

Node (1) Biographic (non-McGill)
Node (1 1) Biographic/Client

- I actually didn't want to breastfeed at all, people pestered me into it (001, interview a)
- She really didn't want to breastfeed, she's very unsure of herself (nurse interview, re 001)
- Yes, I had made the decision to breastfeed long before he was born (014, interview b)

Node (2) Client needs (non-McGill)
Node (2 1) Client needs/Health
Node (2 1 1) Client needs/Health/Infant

- we want to make sure her baby is doing really well, that there isn't any concern with jaundice . . . with breast feeding (nurse A, re client 001)
- if we were having trouble breast feeding, it would be good to have someone who could help with it, but since we're not . . . (004, interview b)

Node (30) Organisation (McGill)
Node (30 1) Organisation/Client Views
Node (30 1 1) Organisation/Client Views/Preferences

- I don't know that it (Postpartum Program) compares to being in hospital. You feel more confident in the hospital, I would say (client 013, document a)
- if I had problems, I would probably want the nurses to call more often (013, interview b)

Node (3 2 1) Organisation/Intervener/Accessibility (non-McGill)

- you just don't have time to read the books, its just easier to call someone (001)

Node (30 2 1) Organisation/Intervener/Accessibility (McGill)

- I was able to call her, come in and see her at any time and get really close attention (014b)

To facilitate the process of analysing and drawing conclusions about the data, within case visual displays were created, as demonstrated in Tables 1 and 2 (pp. 197-198). These displays allow information to be presented in a systematic format, such that a substantial amount of data can be viewed without having to make constant reference to extended text. This enhances the analyst's ability to make comparisons across transcripts, detect differences, and note emerging patterns and themes (Miles & Huberman, 1994). A visual display form was completed for each client, which summarised data from all three client interviews, as well as from the relevant interviews (initial and client-specific) with the public health nurse.

After each visual display form was completed, the researcher summarised her comments about the main issues and themes which had emerged, noted aspects of the data which seemed of particular interest, speculated about what was going on that could "explain" the main outcomes that were identified, and what were the underlying conditions under which those effects occurred. Impressions were initially contrasted across clients recruited by the same nurse, and then comparisons were made for cases across all nurses. Emerging ideas and perspectives were captured within the NUD*IST index database, providing a computerized and retrievable record of all interpretations made, and conclusions drawn.

In analysing and interpreting findings, the emerging categories and sub-categories were reviewed with a member of the thesis committee who is knowledgeable in qualitative methods (Dr. Peggy Anne Field), as well as with the thesis supervisor. This allowed confirmation that the categories which had been defined were helpful to others in understanding the analyst's suppositions (Patton, 1990).

Table 7.1 Relationship among Client Characteristics, Perceived Need, Organisational Issues, Nursing Actions, and Outcomes.

Biographical Data	Needs/Issues	Organisational Factors	Actions	Outcomes
Client: Home on day 1 Single, primiparous Age: xx[1] D/C from nurse's caseload on day xx Breast feeding intent: - I was going to BF until [baby] was about 4 to 6 months or even up to one year	**HEALTH** - my biggest concern is that she's not getting enough food (28) - I want to make sure she's putting on weight, and phn's been checking her for jaundice, but it's not bad (42) - I don't want to give her formula, I want to give her just breast milk	**WORK ENVIRONMENT** - I kind of regret not having called her more often . . . just circumstances . . . you never get around to it . . . she was in the back of my mind all the time, and I just never got around to doing it . . . maybe if I had kept calling her . . . I don't know (172n)	**GIVING SUPPORT** **SKILL BUILDING** - phn's has been a lot of help. She comes by and she helped me with latching and she's going to call me tonight to make sure everything is fine (62) - having somebody help me to learn how to do it properly (70)	**COPING** - I would have been real nervous, if I had no one that I could call . . . it was nice knowing that I could if ever there was a problem (156b) - it made me feel good that I could call someone and they would tell me what to do if something went wrong (273b) **BF DURATION** - *when you started running into problems, did you call the phn to ask for help?* NO. *So you didn't think she could help?* Not really, unless she was going to make me hungry, but I don't see how she could do that (84b)
Nurse Baccalaureate xx years in nursing Certified LC	**HEALTH** - my main goal was that she should breast feed successfully. I think that was the best thing for her - the priority? Making sure the baby was OK, no signs of jaundice, dehydration, the baby was doing well (315c)		**ASSESSMENT** - she's capable of appropriate parenting. I think her nutrition is OK. **GIVING SUPPORT** - I just kept calling, seeing that she was doing fine (62n)	**SATISFACTION** - She had started giving the baby a few bottles at the beginning, but it didn't affect breast feeding at all ... the baby was growing really well. I was really happy about what was accomplished.

---

[1] Data are omitted (xx) to prevent risk of identification of the participant.

Table 7.2 Structural, Procedural, and Relationship Effects

STRUCTURAL		PROCEDURAL		RELATIONSHIPS	
TYPE	**EFFECT**	**TYPE**	**EFFECT**	**TYPE**	**EFFECT**
Client **EXPECTATIONS** - I wasn't expecting a lot of calls, which I've gotten (90b) - I figured she would be there the first time, and then she would maybe come back once or twice, but she came by a few times (101b)	**SATISFACTION** - Oh no. that was fine. No, I don't mind at all (98b) - she wasn't pushy. Like, it didn't bother me when she called (315b)	**PROBLEM SOLVING** -she doesn't have to work at the bottle as hard and she's lazy now ... phn was here, we were squeezing and then putting the milk in her mouth .. toward the end, she was doing fine (160)	**BF DURATION** - I'd be having a lot of problems. That's what phn was here for mostly. I really do want to BF, but she'd probably be on formula a lot more often (213)	**COMFORTABLE** - she makes me feel comfortable. She doesn't make me feel like I'm putting her out, bothering her... and she wants the same thing I do ... she wants to see her breast feeding and that's what I want too, and she's willing to help me with that (283)	**TRUST** **COPING** - I felt comfortable knowing I could call her and she would come down, and she seemed like she really cared ... that's important (269b)
Nurse **EXPECTATIONS** - I don't think she had many expectations as far as me or the program was concerned (125n)	**RESOURCE USE** ***INTENSITY*** - I think she felt confident enough to phone me whenever she did have a problem. I think they get to know their babies, and they feel they don't need you any more. She knew I was there for her (125n)	**GIVING SUPPORT** - the goal? to help moms become confident and knowledgeable about feeding, growth & development, and just to be there as a real support for them	**SATISFACTION** - it was nice to have advice from someone other than my mother (237b) **RESOURCE USE** ***INTENSITY*** - I have a friend, she was telling me about what it was like. She didn't like her health nurse, so her health nurse didn't come by often because she didn't want her to (141b).	**TRUST** - you work on a one to one basis and that helps to build up trust between you and the mom, and she can call you anytime she feels that she wants to, and she's comfortable with that (79c)	**SATISFACTION** - I think she was worried that I needed help, she just wanted to check up and make sure everything was OK. ... she was really nice, I really liked her (148b)

Reliability and Validity

Sandelowski (1986) identifies four factors associated with scientific rigour in qualitative research - credibility, applicability, consistency and neutrality. Internal validity or credibility was enhanced through the use of multiple methods of data collection (i.e. triangulation of data sources) with nurses and clients. Nurses and clients self-selected into the study, but there was no indication that participant bias influenced the findings. Few of the clients experienced health problems requiring extensive follow-up from nurses, but there were one or two complex cases in the data base and although small, the sample of clients was of sufficient heterogeneity to adequately represent the range of clients who typically receive program services. A program theory was specified *a priori* and the sampling strategy was driven by a desire to maximize the likelihood that clients of differing levels of need and health behaviours would be included in the study. The specification of a program theory which precedes collection and analysis of data is helpful in improving all types of validity in quantitative studies (Chen & Rossi, 1987), but as Brink (1991) has noted, the same criteria of "representativeness" of the target population and "predictive validity" (i.e. ability to anticipate what might occur on the basis of prior knowledge or theory) apply to qualitative studies.

Analysis of data for both approaches to service delivery provided only minimal opportunity to analyse findings from different perspectives, but the "comparative" approach nonetheless increased validity to some extent (Chen & Rossi, 1987). Nurse and client participants appeared to feel comfortable during the interview process, and there was nothing to suggest that responses to the interviewer's questions were less than truthful. Interviews were conducted with all participants on more than one occasion, and no inconsistency in responses was ever noted (Brink, 1991).

Decisions made in affixing codes to the data were recorded in the computerized node memos of the NUD*IST program, and all material was coded by the same researcher. Throughout the analysis process, interpretations of the data and premises were discussed with a member of the thesis committee (Dr. Field), an expert in qualitative methods who is also very knowledgeable about public health nursing practice and maternal-child health, and who had agreed to act as consultant to the project. This allowed for verification of coding and confirmation that many of the themes emerging from this research were consistent with findings from her own, or other research with which Dr. Field was familiar (Brink, 1991).

Findings of the study were presented to nursing managers in the agency in which the study was conducted, as well as to participating nurses. There was strong agreement that the researcher's interpretation of the data was consistent with "reality" as they know it, and accurately reflected the current approach to service delivery. Nurses expressed the hope that the findings would lead to structural changes in the program, as they agreed that their practice was not now consistent with the primary health care notion of health promotion. Selected results of the study were also presented at two meetings attended by nurses from public health agencies and other practice settings, and feedback suggested that the findings from this study were totally consistent with their own views of the realities of nursing practice in today's health care environment. This added to the relevance and credibility of the findings.

All records of the raw data, memos, visual displays, and index system have been retained in the NUD*IST computer file, and are available on disk for review. Plans are underway to publish the findings, which will provide an opportunity for peers to comment on the researcher's interpretation of data (Field & Morse, 1985).

References

Besner, J. (1994). Nurse-client interactions in public health. An exploratory study of client needs, nursing interventions, and outcomes. Unpublished manuscript, University of Alberta, Edmonton.

Brink, P. J. (1991). Issues of reliability and validity. In J. M. Morse (Ed.), Qualitative nursing research. A contemporary dialogue (pp. 164-186). Newbury Park: Sage.

Brink, P. J., & Wood, M. J. (1989). Advanced design in nursing research. Newbury Park, CA: Sage.

Chen, H-T., & Rossi, P. H. (1987). The theory-driven approach to validity. Evaluation and Program Planning, 10, 95-103.

Day, R. A., Field, P. A., Campbell, I., & Reutter, L. (1995). Students' evolving beliefs about nursing: From entry to graduation in a four-year baccalaureate programme. Nurse Education Today, 15, 357-364.

Field, P. A., & Morse, J. M. (1985). Nursing research. The application of qualitative approaches. Rockville, MD: Aspen.

Huberman, A. M., & Miles, M. B. (1994). Data management and analysis methods. In N. K. Denzin, & Y. S. Lincoln (Eds.), Handbook of Qualitative Research (pp. 428-444). Thousand Oaks, CA: Sage.

Miles, M. B., & Huberman, A. M. (1994). An expanded sourcebook. Qualitative data analysis (2nd ed.). Thousand Oaks, CA: Sage.

Patton, M. Q. (1990). Qualitative evaluation and research methods (2nd ed.). Newbury Park: Sage.

Qualitative Solutions and Research. (1996). User's guide for QSR NUD*IST (Revision 3). Sage: Scolari.

Sandelowski, M. (1986). The problem of rigor in qualitative research. Advances in Nursing Science, 8(3), 27-37.

Sidani, S., & Braden, C. J. (1998). Evaluating nursing interventions. A theory-driven approach. Thousand Oaks, CA: Sage.

Framework to Guide Establishment of Relationships

Among Structure, Process, Outcome Variables

Framework to Guide Establishment of Relationships

Among Structure, Process, Outcome Variables[2]

Implementation Environment: Participant Dimension

1. What are the characteristics of the population receiving services?

2. What services are participants receiving?

   . Number of contacts with program staff?
   . What are the variations in how participants engage in planned activities?
   . What proportion of eligible clients refuse service or disengage prematurely? Why/ why not?
   . How does the service terminate? How do participants react to exiting the program?
   . How does completion of this program relate to other program activities (e.g. well-child)?
   . What are the future plans in relation to this nurse-client relationship?
   . What do participants report about the program that may affect outcomes?

Implementation Environment: Implementor Dimension

1. How are services being delivered?

   . Where do activities occur? (e.g. primarily in the home, through telephone contact, etc.)
   . When do activities occur?
   . What is it like to be a participant in this program?
   . How are services initiated? What is said at the beginning of contact?
   . Are there notable differences in approach to clients between the two modes of delivery?

2. What are the characteristics of the implementor?

   . What are the attitudes, aspirations of the provider in relation to this program?
   . What experience does the implementor have with this and other phn programs?
   . What is it like to be a provider in this program?
   . What does the provider think of the program - strengths, weaknesses, best and poorest components?
   . What aspects are liked? Disliked? What would she like to see changed?

---

[2] Adapted in large measure from Patton, M. Q. (1990). Qualitative evaluations and research methods. Newbury Park: Sage.

Implementation Environment: Organisational[3]

1. What is the social climate within which this program is delivered?

   . What do clients and providers report about the program milieu?
   . Is there much change or stability within the program environment?
      - Is that perceived to influence program activities? effects?
   . Is there any particular philosophy of "care" that seems to predominate?
   . Is the "social climate" of this program cohesive?
   . Does it foster independent decision-making by staff?
   . To what extent do physical and policy factors influence program activities & effects?

2. Is there any apparent relationship between staffing level and program quality?

   . What is the level of interaction between program staff and clients?
   . Is there a clear orientation toward achieving program goals? client goals?
   . How clear are the staff about program goals?

3. Is the organisation perceived to have a particular orientation toward staff autonomy?

   . Is there any evidence that staff morale influences program processes or outcomes?

Treatment Environment

1. Do values, ideologies, preferences, abilities of providers or recipients appear to influence program activities and outcomes?

   - Is there evidence that the program is shaped differently than was intended by developers?
   - Is there evidence in this study that nurses in the normative program influenced the activities of those in the actual program group?
   - Do providers report client preferences for certain intervention components?
   - What factors are perceived to influence premature attrition from the program?

2. What activities external to the program appear to influence outcomes?
   - Do participants receive services from other agencies? What is the general nature of those services?

3. Are there difficulties in maintaining the program as intended?
   - Are there scheduling or delivery problems and issues?
   - Do problems such as inadequate staff, absenteeism, etc. affect program activities?
   - What other factors might cause the program not to be implemented as intended?

---

[3] Adapted from:

Moos, R.H. (1988). Assessing the program environment: Implications for program evaluation and design. In K. J. Conrad & C. Roberts-Gray (Eds.), Evaluating program environments. New Directions for Program Evaluation, 40, 7-23.

Chen, H-T. (1990). Theory-driven evaluations. Newbury Park: Sage.

4. What is the potential influence of external factors on program activities or outcomes?

    - Are there social or environmental factors in the client population that influence the program?
    - How does "transiency" in the client population influence program processes & outcomes?

5. How does complexity of the program influence ability to isolate its various components and their outcomes?

    - What factors influence program strength - i.e. amount, frequency, duration?

Outcome Environment [4]

1. What knowledge have participants gained about issues related to postpartum health and parenting?
2. What changes do participants report as a consequence of the program?
3. What participant (client and provider) characteristics appear to be related to program outcomes?
4. What program participation factors appear to be related to program outcomes?
5. Is it clear what goals have been achieved?
6. Are outcomes measurable?
7. Do program goals create difficulty in operating the program as perceived desirable by staff?
8. What is the consistency between program goals and activities?
9. Are program goals clearly understood by staff?
10. What is providers' theory about how program activities are supposed to achieve goals?
11. What evidence is there that linkage between program activities and specific goals is being pursued?

---

[4] Adapted from:

Marsh, J. C., & Wirick, M. A. (1991). Evaluation of Hull House teen pregnancy and parenting program. Evaluation and Program Planning, 14, 49-61.

Demographic Client Data Form

Demographic Client Data Form

Client identification #: ____________________ Nurse identification #: ________________

1. Date of intake into program: ____/____/____ (m. d. y.)

2. Number of weeks in Healthy Beginnings program: ☐☐ Date of discharge: ____/_____/____

3. Followed by Public Health during antenatal period: ☐☐ 01= yes 02 = no

Attended Prenatal Classes at Health Centre: ☐☐ 01= yes 02 = no

4. Date of birth: ____/____/____ (m. d. y.) Age: _________ (at entry into program)

5. Marital status: ☐☐ 01= single 02 = married 03 = common law 04 = divorced or separated

6. Gravida: ☐☐ Para: ☐☐

7. First language at home: ☐☐ Language currently spoken: ☐☐

01 English
02 French
03 Aboriginal
04 Italian

15 Spanish
10 German
07 Dutch
08 Polish

09 Ukrainian
10 Vietnamese
11 Chinese
12 Other ________________(specify)

8. Schooling (highest grade completed): Grade now if in school: ☐☐

01 Grade 8 or <
02 Grade 9
03 Grade 10
04 Grade 11

05 Grade 12
06 Some College
07 College Degree
08 Trade School

9. Literacy level : ☐☐

01 Reading difficulty 02 Cannot read 03 No difficulty

10. Current living arrangements: ☐☐

01 Partner
02 Parents
03 Alone

04 Baby's father's parents
05 Boyfriend
06 Other relatives

07 Friends
08 Foster Home
09 Other ______________________

11. Source of income: ☐☐ ☐☐

01 Self
02 Husband/boyfriend
03 Parents
04 Other relative
05 Government assistance
06 Other sources ____________________ (specify)

12. Income: ☐☐

01 Under $20,000
02 $20,000 to $30,000
03 $30,000 to $40,000
04 $40,000 to $50,000
05 Over $50,000

13. In general, how well do you feel you are dealing with your infant's and family's needs? ☐☐

01 Not well 02 Fairly well 03 Very well

14. How satisfied are you that you are able to cope with the stresses you have? ☐☐

01 Very dissatisfied 02 Dissatisfied 03 Satisfied 04 Very satisfied

15. Who could you count on to help you if you needed emotional support? ☐☐ ☐☐

16. Who could you count on to help you if you needed financial support? ☐☐ ☐☐

17. Who could you count on to help if you needed a short break from your responsibilities? ☐☐ ☐☐

01 Husband / boyfriend
02 Parents
03 Relatives
04 Friends
05 Public health nurse / health centre
06 Government
07 No one
08 Other (specify): ______________________________

18. Who was interviewed? ☐☐

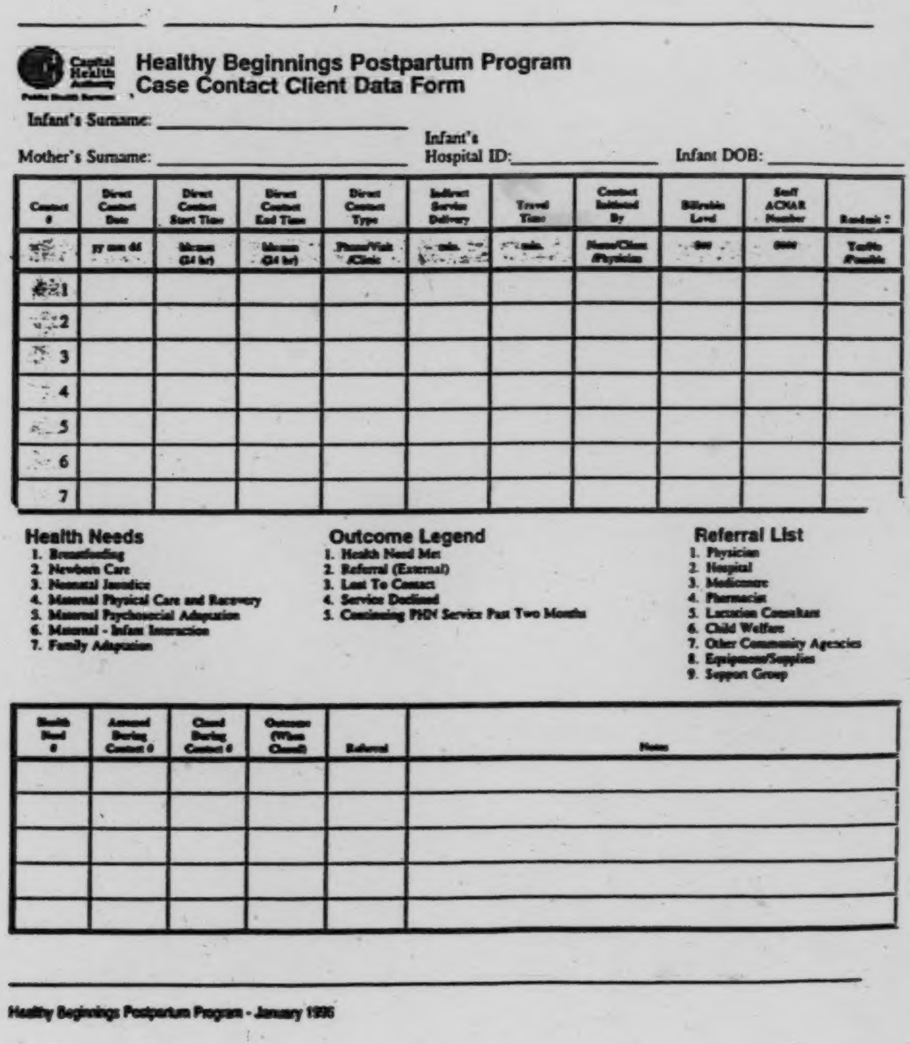
01 Mother 02 Father 03 Other (specify) ______________________

19. Who else was present during this interview? ☐☐

01 Partner 02 Grandparent 03 Other (specify) ________________________

Postpartum Program

Case Contact Client Data Form



Capital Health Authority
Public Health Services

Healthy Beginnings Postpartum Program
Case Contact Client Data Form

Infant's Surname: ____________________

Mother's Surname: ____________________ Infant's Hospital ID: ____________ Infant DOB: ____________

Contact #	Direct Contact Date	Direct Contact Start Time	Direct Contact End Time	Direct Contact Type	Indirect Service Delivery	Travel Time	Contact Initiated By	Billable Level	Staff ACNAR Number	Readmit ?
	yy mm dd	hh:mm (24 hr)	hh:mm (24 hr)	Phone/Visit /Clinic	min.	min.	Nurse/Client /Physician	###	####	Yes/No /Possible
1										
2										
3										
4										
5										
6										
7										

Health Needs
1. Breastfeeding
2. Newborn Care
3. Neonatal Jaundice
4. Maternal Physical Care and Recovery
5. Maternal Psychosocial Adaptation
6. Maternal - Infant Interaction
7. Family Adaptation

Outcome Legend
1. Health Need Met
2. Referral (External)
3. Lost To Contact
4. Service Declined
5. Continuing PHN Service Past Two Months

Referral List
1. Physician
2. Hospital
3. Medicentre
4. Pharmacist
5. Lactation Consultant
6. Child Welfare
7. Other Community Agencies
8. Equipment/Supplies
9. Support Group

Health Need #	Assessed During Contact #	Closed During Contact #	Outcome (When Closed)	Referral	Notes

Healthy Beginnings Postpartum Program - January 1996

A Theory-based Approach to Establishing the Effectiveness of a Public Health Nursing Program

DATA COLLECTION TOOL

CALLS TO HELP LINE and DROP-IN VISITS TO HEALTH CENTRE

Contact #	Contact Date	Contact Time	Contact Type	Contact Initiated by	Nurse I.D.
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Public Health Nurse Interview Guide

Public Health Nurse Interview Guide

First interview with phn

The purpose of this interview is to get information about your attitudes, perspectives and aspirations in relation to the Healthy Beginnings postpartum program. The information you provide could potentially help improve not only the Healthy Beginnings program, but also other programs offered by public health nurses. As someone who is a provider in this program, you are in a unique position to describe what the program does, how you think it affects people, and how relevant you think it is to meeting the health needs of postpartum families. This first interview will explore a number of issues: what you see as the goals of the program, your experiences with the program, and your thoughts about how variations in client values, beliefs, or attitudes influence the success of the program.

Subsequent to this interview, I will be interviewing you again upon exit from the Healthy Beginnings program of each of the clients on your caseload who are participating in this study. The purpose of those interviews will be to get some more specific impressions about how you feel the program met the needs of the individual or family in question, and what if anything, facilitated or hindered your ability to accomplish what you had hoped to achieve with that client.

The answers from all nurses participating in this study will help me understand what happens in this program, how and why the program is or is not meeting established goals and objectives, and what should be done, if anything, to improve the program. The information I collect will be available to management and staff of Community Health Prevention and Promotion Services (CHPPS) in a final report that will be submitted upon completion of the study. I want to assure you though, that nothing you say in interviews, and no information which I abstract during chart reviews, will ever be identified with you personally. You can be assured that I will maintain strict confidentiality with respect to all of our conversations. As we go through the interviews, if you have any questions about why I'm asking something, please feel free to ask. If there's anything you don't want to answer, just say so. I'd like to tape record what you have to say so that I don't miss any of it. I don't want to take the chance of relying on notes and miss something you say, or change your words somehow. So, if you don't mind, I'd like very much to use the recorder.

1) First of all, I'd like to ask some questions about your background and experiences, to help me get a better sense of the range of experiences which public health nurses bring to this program.

- Can you tell me about your education in nursing or other fields?
- What kinds of experiences have you had in nursing generally, and in public health specifically?
- How many years since graduation from Nursing? How many years in Public Health?
- How did you become involved in the Healthy Beginnings program?

2) What are your aspirations in relation to the Healthy Beginnings program?

- What do you find easiest to accomplish in relation to those aspirations?
- What do you find most difficult?

3) What is it like to be a provider in this program?

- What do you most enjoy? What do you least enjoy?

4) How are services to clients initiated?

- What do you generally say to clients at the very first contact?
- How do you feel they respond to that?

5) How do you feel about overall client participation in this program?

- What proportion of clients would you say disengage prematurely from service delivery?
- What do you think are some of the factors related to that?

6) How do you disengage from clients or terminate services in relation to Healthy Beginnings?

- How does the service terminate?
- How do clients tend to react to exiting from the program?
- How do you make plans for continued health unit contact with clients after HB?

7) What do you think are the main goals and objectives of the program?

- How clear are you about the goals?
- What would you say are the program priorities?
- Which goals do you think are the most easily accomplished? Most difficult?

8) What would say are the main components of the program?

- What are the major activities which you perform in providing this program?
- How closely related are those activities to what you understand to be management expectations about program delivery?

9) What do you think most clients expect from the program?

- What do you think most clients get from the program?

10) Based on your experience, what would you say are the strengths of the HB program?

11) What about the weaknesses?

12) What are the sources of conflict or frustration which you encounter in delivering this program?

13) How effective do you think this program is?

14) If you had the power to change things about the program, what would you make different?

Client specific public health nurse interview guide

The purpose of this interview is to get some impressions about your interactions with (client), who has now been discharged from the Healthy Beginnings program. I am particularly interested in knowing whether you feel the program met the needs of that client, and what you think facilitated or hindered your ability to accomplish what you had hoped to achieve. I'll just remind you that everything you say will be kept in strict confidence. As with other interviews, I would like to tape record our conversation, although you may ask to have the recorder turned off at any time, should you so wish. Any questions before we start?

1) What were your aspirations in relation to this client?

- How do you feel about what was accomplished?
- What factors do you think influenced that?

2) What expectations do you think this client had about the HB program?

- What goals did the client have in relation to herself, her baby, her family?
- What social or environmental factors do you think influenced those goals?

3) What do you think the client would say was achieved?

4) What were your main activities during the course of this nurse-client relationship?

- What kind of decision process did you go through in thinking about what to do for/with this client?
- What particular things were you most concerned about with this client?
- What lingering doubts or concerns do you have about the client now?

5) How would you describe your feelings about this nurse-client relationship right now?

6) What outcomes do you think were achieved?

- What do you think could have been different?
- What would have been needed to change the outcome?

Client Interview Guide

Client Interview Guide

First Interview

The purpose of this interview is to get information that may help improve the Healthy Beginnings program. Eventually it may benefit other programs offered by public health nurses. As someone who is in the program, you are in a unique position to describe what the program does, how it affects people, and how relevant it is to meeting the health related needs of families. hat's what these interviews are about: your hopes and your goals in relation to meeting the needs of your new baby, yourself and your family, your experiences with the postpartum program, and your thoughts about your experiences.

I will be interviewing about 30 families. The answers from the people I interview will help me understand what happens to people in the program, how and why the program is or is not successful in helping people feel in control of their day to day experiences as new parents. All the information will be summarised in a report. This will be available to the program staff. Nothing you say in interviews will be identified with you personally. As we go through the interviews, if you have any questions about why I'm asking something, please feel free to ask. Or if there's anything you don't want to answer, just say so. I'd like to tape what you have to say so that I don't miss any of it. I don't want to take the chance of relying on notes and miss something you say, or change your words somehow. So, if you don't mind, I'd like very much to use the recorder. If at any time during the interview you would like to turn the tape off, all you have to do is ask. Any questions before we begin?

1) The first set of questions is to help me find out about the hopes and expectations that people have about their role as new parents, and how that affects what they expect from the postpartum program.

- what hopes, fears or concerns do you have for your baby in his/her first year?
- for yourself?
- for your family?

2) What do you think will help you achieve your goals?

3) What do you think stands in your way of achieving those?

4) How do you think the nurse could help you in relation to these goals?

5) Some people are visited by the public health nurse only once or twice after they are discharged from the hospital. Some receive many visits over the course of the first two months after the baby is born. I'd be interested in knowing how you feel about your involvement in the postpartum program.

- What will help you decide how often you want the nurse to visit?
- What are some of your main concerns right now about your baby?
  about yourself?
  about your family?
- Who would you feel most comfortable talking with about these concerns?

6) If the postpartum program wasn't there, how would that affect you?

- What changes in yourself/ baby/family do you hope might result from being in this program?

7) Now that you've had some contact with the public health nurse, how do you feel about the postpartum program?

- How would you describe your feelings about it right now?
- What doubts or concerns do you have about it?

8) Some people report that their first contact with the public health nurse was not very reassuring. Others say that they immediately felt that the nurse was there for them, and really understood what their needs were. I'd be interested in knowing how you would describe your experiences with the nurse or nurses with whom you have had contact.

- What are your feelings about your experiences so far?

9) Are there other thoughts or feelings you'd like to share with me to help me understand how you're seeing the postpartum program right now. Anything at all you'd like to add?

10) I have just one more set of questions to ask, which will help me get a better sense of the different backgrounds and experiences of persons whom I'm interviewing for this study. If you feel that any of these questions are too sensitive and you'd rather not answer, please say so.

- Go to Demographic Client Data Form

Second Interview

I'm conducting this interview at a time when most families are no longer participating in the Healthy Beginnings postpartum program, although I realize that you will continue to receive services from Public Health Services, Capital Health Authority. This interview will help me better understand what you've experienced so far, that may help the CHA improve the program. I'll just remind you that you sign[illegible] form giving your consent for material from this interview to be included in a report, although what you discuss with me will not be identified with you personally in any information I share with others. I would like to tape our conversation. You may ask to have the recorder turned off at any time, should you so wish. Any questions before we begin?

1) To what extent was the postpartum program what you expected?

- How was it different from what you expected? Which things were as expected?
- Which things were different than what you expected?

2) How did the program affect you?

- What changes did you see in yourself as a result of the program? In your family?

3) What is it about the program that made it have the effects it had?

- What happened that made a difference to you?
- What was the best part of the program for you? What was the least helpful part?

4) Where have you gotten in relation to the goals that you discussed with me two months ago?

- What helped you achieve those goals?
- What prevented you from achieving those you did not meet?

5) This next question may be difficult to answer with certainty, but I'd like to get your thoughts on it. In thinking about how you or your family have changed in the past two months, how much has this program caused those changes compared with other influences on your life?

- What other sources of help have you gotten? How did you access those sources?

6) Suppose I had been present during the visits (or phone calls) that you had with the public health nurse.
- What would I have seen happening? Describe to me what one of those sessions is like.

7) From your experience with this program, what would you say are the major activities offered to clients in this program?

8) What's it like to be a client in this program?

9) Suppose you were being asked by someone in the Alberta Government whether the postpartum program should continue to be funded. What would you say? What would be your recommendations for the program?

Any other thoughts or feelings you might share with me to help me understand how the program affected you? Anything you'd like to add?

Final Interview

It's been four months now since we last spoke. I would like to ask just a few questions to see whether you feel that there are any more changes that have occurred in you or your family that you think are related to the services you received from public health nurses while you were a client in the Healthy Beginnings postpartum program. I would like to tape our conversation. I will remind you once again that everything you say will be kept in strict confidence. Some of the information you share with me will be included in a report which will be available to program staff. None of the information in the report will be discussed in a way that could identify you or any other person. Any questions before we begin?

1) Where are you now in relation to the goals and aspirations you had for yourself, your baby, and your family at the time of our first meeting?

- What has helped you to accomplish those goals?
- What has prevented you from achieving some of those goals?

2) How often have you been in contact with staff from Public Health Services in the past four months?

- How do you feel about those contacts compared with what it was like to be a client in the postpartum program?

3) Have there been any ways in which the Healthy Beginnings postpartum program affected you or your family that we didn't discuss at the time of our last interview four months ago?

- Would you tell me more about that?

4) What plans do you or your family have to change anything or do anything differently as a result of what you learned or did while you were a client in the postpartum program?

5) Looking back on your experiences with the postpartum program, what would you say the program is all about?

- How would you describe the main activities of the program?

Needs - Actions - Outcomes Tracking Sheet

Needs - Actions - Outcomes Tracking Sheet

Client Name: ____________________ **Nurse's Name:** ____________________

Client Problem	**Goals**	**Nursing actions**	**Intermediate Outcome**	**Ultimate Outcome**

Guide to Conducting Review of Tracking Sheet

Guide to Conducting Review of Tracking Sheet

Normative Program[5]

The basic assumptions and elements of the McGill model are:

a) individuals and families aspire to and are motivated toward health
b) nurses' role involves skill in analysis (assessment of client situation)
c) coping (efforts made by families in problem-solving & achieving mastery)
d) coping leads to improved health, satisfaction with resolution of the problem, enhanced Quality of Life
e) development refers to achievement of life goals and involves recognizing, mobilizing, maintaining, resources (personal, family, community)
f) the family is the unit of concern
g) families are active participants in their care, and participation increases when goals are those of the client
h) the environment is the context within which health and healthy ways are learned, and it extends beyond the family's immediate environment
i) nursing is a process of structuring learning experiences directed toward meeting the needs, goals and problem-solving styles of individuals or families
j) negotiation, collaboration, and coordination are evident during assessment, implementation, and evaluation of the nurse-client relationship which requires sensitivity to client circumstances and needs
k) client outcomes reflect nursing interventions directed by the model

To what extent are interventions characterized by efforts to:[6]

- develop a relationship with families and gather information about their needs?
- provide emotional support?
- help the family to view their situation differently or increase their knowledge?
- assist the family with problem-solving?
- help the family to acquire the resources and services that might best meet their needs?

---

[5] Gottlieb, L., & Rowat, K. (1987). The McGill model of nursing: A practice-derived model. Advances in Nursing Science, 9(4), 51-61.

[6] Pless et al. (1994). A randomized trial of a nursing intervention to promote the adjustment of children with chronic physical disorders. Pediatrics, 94(1), 70-75.

Actual program[7]

- initial visit is intended to elicit and discuss parental concerns and questions
- assess mother and infant immediate postpartum recovery through physical assessment
- perform necessary treatment procedures
- identify deviations from normal and refer as appropriate
- promote breastfeeding
- explain other preventive services and contract with family for further follow-up
- assess infant feeding
- assess family health
- subsequent contacts focus on breastfeeding, neonatal jaundice, newborn care, maternal physical care and recovery, maternal psycho-social adaptation, family adaptation, maternal infant interaction

To what extend are program activities consistent with the intent of the program as developed?

- are linkages between needs and interventions clear?
- to what extent do maternal or family concerns condition interventions?
- what is the implied philosophy underlying assessment, implementation, and evaluation of the nurse-client relationship?

---

[7] Healthy Beginnings Postpartum Program Nursing Manual

Participant Selection Fact Sheet

Participant Selection Fact Sheet

(to be completed on all new postpartum clients)

Name: ______________________________

Age: ______________________________

Marital Status: ______________________________

Client Data

Primiparous: _____ (yes)

Multiparous: _____ (yes)

Visible Minority: ________________ (specify)

Economic Status: _______ (low income) _________ (average) _________ (high)

Project Nodes Tree Structure

Project Nodes Tree Structure (NUD*IST)

(1)	/Biographic Data
(1 1)	/Biographic/Client
(1 2)	/Biographic/PHN
(2)	/Needs-Issues
(2 1)	/Needs-Issues/Health
(2 1 1)	/Needs-Issues/Health/Infant Health
(2 1 2)	/Needs-Issues/Health/Maternal Health
(2 1 3)	/Needs-Issues/Health/Family
(2 2)	/Needs-Issues/Skill
(2 3)	/Needs-Issues/Support
(2 4)	/Needs-Issues/Information
(2 5)	/Needs-Issues/Continuity of care - consistency of information
(2 6)	/Needs-Issues/Professional Expertise
(2 7)	/Needs-Issues/Coping
(2 8)	/Needs-Issues/Parenting
(3)	/Organisation
(3 1)	/Organisation/Client
(3 1 1)	/Organisation/Client/Preferences
(3 1 2)	/Organisation/Client/Goals - Expectations
(3 2)	/Organisation/Provider
(3 2 1)	/Organisation/Provider/Accessibility
(3 2 2)	/Organisation/Provider/Expertise
(3 2 3)	/Organisation/Provider/Policies
(3 2 4)	/Organisation/Provider/Work Environment
(3 3)	/Organisation/External factors
(4)	/Relationships
(4 1)	/Relationships/Nurse-client
(4 1 1)	/Relationships/Nurse-client/Supportive
(4 1 2)	/Relationships/Nurse-client/Attentive
(4 1 4)	/Relationships/Nurse-client/Comfortable
(4 1 5)	/Relationships/Nurse-client/Familiar
(4 1 6)	/Relationships/Nurse-client/Satisfactory
(4 2)	/Relationships/Network
(4 2 1)	/Relationships/Network/Confusing
(4 2 2)	/Relationships/Network/Non-supportive
(4 2 3)	/Relationships/Network/Supportive
(4 2 4)	/Relationships/Network/Role Models
(4 3)	/Relationships/Client - Other Health Professional

(5)	/Interventions
(5 1)	/Interventions/Assessment
(5 2)	/Interventions/Being there - Being with
(5 3)	/Interventions/Resolving concerns
(5 4)	/Interventions/Anticipatory Guidance
(5 5)	/Interventions/Giving Support
(5 6)	/Interventions/Referral
(5 7)	/Interventions/Giving Info
(5 8)	/Interventions/Listening
(5 9)	/Interventions/Problem-solving
(5 10)	/Interventions/Skill Building
(5 11)	/Interventions/Affirming
(5 12)	/Interventions/Teaching
(5 13)	/Interventions/Persuading

(6)	/Outcomes
(6 1)	/Outcomes/Resource Use
(6 2)	/Outcomes/Knowledge
(6 3)	/Outcomes/Trust
(6 4)	/Outcomes/Coping
(6 5)	/Outcomes/Satisfaction
(6 6)	/Outcomes/Well-Being
(6 7)	/Outcomes/Confidence
(6 8)	/Outcomes/Goal Attainment
(6 9)	/Outcomes/Health
(6 10)	/Outcomes/BF Duration
(6 11)	/Outcomes/Parenting Behaviour

(10)	/Biographic-McGill
(10 1)	/Biographic-McGill /Client
(10 2)	/Biographic-McGill/PHN

(20)	/Needs - Mc
(20 1)	/Needs - Mc/Health
(20 1 1)	/Needs - Mc/Health/Infant
(20 1 2)	/Needs - Mc/Health/Maternal Health
(20 1 3)	/Needs - Mc/Health/Family
(20 2)	/Needs - Mc/Skills
(20 3)	/Needs - Mc/Support
(20 4)	/Needs - Mc/Information
(20 5)	/Needs - Mc/Continuity- Consistency
(20 6)	/Needs - Mc/Professional expertise
(20 7)	/Needs - Mc/Coping
(20 8)	/Needs - Mc/Parenting

(30)	/Organisation -Mc
(30 1)	/Organisation -Mc/Client
(30 1 1)	/Organisation -Mc/Client/Preferences
(30 1 2)	/Organisation -Mc/Client/Goals & Expectations
(30 2)	/Organisation -Mc/Provider
(30 2 1)	/Organisation -Mc/Provider/Accessibility
(30 2 2)	/Organisation -Mc/Provider/Expertise
(30 2 3)	/Organisation -Mc/Provider/Policies
(30 2 4)	/Organisation -Mc/Provider/Work Environment
(30 3)	/Organisation -Mc/External factors
(40)	/Relationships -Mc
(40 1)	/Relationships -Mc/Nurse-client
(40 1 1)	/Relationships -Mc/Nurse-client/Supportive
(40 1 2)	/Relationships -Mc/Nurse-client/Attentive
(40 1 4)	/Relationships -Mc/Nurse-client/Comfortable
(40 1 5)	/Relationships -Mc/Nurse-client/Familiar
(40 1 6)	/Relationships -Mc/Nurse-client/Satisfactory
(40 2)	/Relationships -Mc/Client Network
(40 2 1)	/Relationships -Mc/Client Network/Confusing
(40 2 2)	/Relationships -Mc/Client Network/Non supportive
(40 2 3)	/Relationships -Mc/Client Network/Supportive
(40 2 4)	/Relationships -Mc/Client Network/Role Models
(40 3)	/Relationships -Mc/Client Other Health Professional
(50)	/Interventions -Mc
(50 1)	/Interventions -Mc/Assessment
(50 2)	/Interventions -Mc/Being there
(50 3)	/Interventions -Mc/Resolving Concerns
(50 4)	/Interventions -Mc/Anticipatory guidance
(50 5)	/Interventions -Mc/Giving Support
(50 6)	/Interventions -Mc/Referral
(50 7)	/Interventions -Mc/Giving info
(50 8)	/Interventions -Mc/Listening
(50 9)	/Interventions -Mc/Problem solving
(50 10)	/Interventions -Mc/Skill Building
(50 11)	/Interventions -Mc/Affirming
(50 12)	/Interventions -Mc/Teaching

(60)	/Outcomes -Mc
(60 1)	/Outcomes -Mc/Resource Use
(60 2)	/Outcomes -Mc/Knowledge
(60 3)	/Outcomes -Mc/Trust
(60 4)	/Outcomes -Mc/Coping
(60 5)	/Outcomes -Mc/Satisfaction
(60 6)	/Outcomes -Mc/Well being
(60 7)	/Outcomes -Mc/Confidence
(60 8)	/Outcomes -Mc/Goal Attainment
(60 9)	/Outcomes -Mc/Health
(60 10)	/Outcomes -Mc/BF Duration
(60 11)	/Outcomes -Mc/Parenting
(60 12)	/Outcomes -Mc/Family Health
(66)	/Diary. field notes
(67)	/Nurses D, E, F (McGill) Case analysis
(77)	/Nurses A, B, C (non-McGill) Case analysis
(88)	/Case Analysis - clients
(88 1)	/Case Analysis/Client 001
(88 2)	/Case Analysis/Client 002
(88 3)	/Case Analysis/Client 003
(88 4)	/Case Analysis/Client 004
(88 5)	/Case Analysis/Client 005
(88 6)	/Case Analysis/Client 006
(88 7)	/Case Analysis/Client 007
(88 8)	/Case Analysis/Client 008
(88 10)	/Case Analysis/Client 010
(88 11)	/Case Analysis/Client 011
(88 12)	/Case Analysis/Client 012
(88 13)	/Case Analysis/Client 013 Mc
(88 14)	/Case Analysis/Client 014Mc
(88 15)	/Case Analysis/Client 015Mc
(88 16)	/Case Analysis/Client 016 Mc
(88 17)	/Case Analysis/Client 017 Mc
(88 18)	/Case Analysis/Client 018Mc
(88 19)	/Case Analysis/Client 019Mc
(88 20)	/Case Analysis/Client 020Mc
(88 21)	/Case Analysis/Client 021Mc
(88 23)	/Case Analysis/Client 023Mc
(88 24)	/Case Analysis/Client 024Mc
(88 25)	/Case Analysis/Client 025Mc
(88 26)	/Case Analysis/Client 026Mc
(88 27)	/Case Analysis/Client 027 (non-McGill)
(999)	/Working Nodes

Consent Forms

Public Health Nurse Consent Form

Project Title:

A Theory-based Approach to Establishing the Effectiveness of a Public Health Nursing Program

Researcher:	**Supervisor:**
Jeanne Besner	Dr. Phyllis Giovannetti
PhD Nursing candidate # 506, 10515 - 99 Ave. Edmonton, T5K 1N3 Phone: 424-8058 or 492-5667	Faculty of Nursing University of Alberta Phone: 492-6251

Purpose: Health care reform is occurring in Alberta. It has highlighted the need to have better information about the effectiveness and outcomes of public health nursing programs. This study will provide information about the relationship that exists between client needs, organisational factors, nursing interactions, and client outcomes. The information will be useful in helping to identify the criteria by which we establish and evaluate health outcomes in public health nursing.

Participation:

There will be no harm to you if you participate in this study, nor will you likely benefit directly. Results from this study will increase our understanding of what and how public health nursing interventions may lead to positive health outcomes. This will help us build a better health system for the future, and your participation may therefore be of benefit to other Albertans, and to public health nursing. You do not have to be in this study if you do not wish to be. Should you decide to participate, you can still drop out at anytime by contacting the researcher, Jeanne Besner.

The researcher will interview selected nurses involved in delivery of the Healthy Beginnings postpartum program, and clients receiving those services. An initial interview will take place at the start of the study, to get some general impressions about your perspectives of, and aspirations for, the Healthy Beginnings program. This interview could last up to one hour. Another interview will take place upon discharge from the Healthy Beginnings program of the clients participating in the study. These interviews will probably last only about 30 minutes, but could take up to one hour. Interviews can take place at the health centre or any other location that may be more suitable to you, and each will be taped. Interviews may need to occur outside regular work hours, if your workload does not allow them to take place during normal hours of work. I may need to call you after the interviews to make sure all the information is correct. I will review with you transcripts of each of our conversations to give you an opportunity to change or add to the data should you wish.

I will conduct chart reviews, to obtain documentation of the linkage that exists among client concerns or needs, nursing actions, and health outcomes. You may also be contacted after I have completed chart reviews, to discuss any questions that may arise. I will want to tape those interviews as well. These interviews should take no more than 10 to 15 minutes, if they are required at all. Taking part in this study or dropping out will not affect your position with the Capital Health Authority.

The nursing manager at the Health Centre will know that you are participating in this study. It will not be possible for you to take part in the study anonymously, but I will not use your name or any other personal information about you when I discuss or write up the results of this study. Only a code number will appear on any forms I use during this study. I will delete your name and any other identifying material from transcriptions of the tapes. Any data which identifies you personally will be kept separate from the coded materials. I will maintain strict confidence with respect to all the information that you share with me in this study.

I will lock all records in a filing cabinet during the study and for seven years after I have finished the study. I will also keep the typed interview notes in a locked file. I or others may use these notes for studies in future, but only if approved by an ethics review committee. I may want to publish the results of this study or present the information at professional conferences. If so, your name will not appear on any material that could identify you. You are one of only a few nurses participating in this study. I will therefore not use any quotes or other material that could identify you when I write up the results of the study, or present at conferences. I will provide you with a copy of the study results before they are distributed. You can request that I exclude specific data if you feel they could potentially identify you.

This consent form will be kept in a locked filing cabinet for five years. Because your name is on it, I will keep the consent form in a different place than the other forms I collect during this study.

If you have any questions about this study, you can call me anytime at the numbers listed above.

CONSENT

I fully understand the above research procedures. My questions were answered to my satisfaction. I know that I can contact the person named above if I have other questions either now or later. I do not have to participate in this study, and I understand the possible benefits of joining the study. I am free to withdraw from the study whenever I want. I know that there will be no effect on my employment with this health centre or with the Capital Health Authority if I do not participate in the study, or withdraw later. I will be told right away if information from the study becomes available that could affect my decision to continue in this study. I have a copy of this form to keep for my records.

(Signature of Participant) **(Date)**

(Signature of Researcher) **(Date)**

Client Consent Form

Project Title:

A Theory-based Approach to Establishing the Effectiveness of a Public Health Nursing Program

Researcher:	**Supervisor:**
Jeanne Besner	Dr. Phyllis Giovannetti
#506, 10515 - 99 Ave.	Faculty of Nursing
Edmonton, T5K 1N3	University of Alberta
Phone: 424-8058 or 492-5667	Phone: 492-6251

Purpose: Health care professionals and managers need good information about the helpfulness of health services. Only those programs that meet the needs of people and improve their health will get funded in future. To measure the effectiveness of programs, it is important that we ask clients if they feel that they have benefited from the services we provide. This study will enable us to find out how public health nurses can better meet the health needs of families involved in the Healthy Beginnings program.

Participation:

There will be no harm to you if you take part in this study. You may not feel any direct benefit either. This study will help us to better understand what it is about the services delivered by public health nurses that you find most or least helpful. This can help us improve our services, and build a better health system for the future. Your participation may therefore be of benefit to other Albertans. You do not have to be in this study if you do not wish to be. If you decide to be in the study, you can still drop out at anytime by telling the researcher, Jeanne Besner, or the public health nurse.

The researcher will set up three separate interviews with you. These can take place in your home, health centre office or any other place you want. All interviews will be tape recorded. The first interview will probably last up to one hour. The second and third interviews will likely be shorter, and may take only about 30 minutes. You can decide not to answer certain questions or discuss any subject during the interviews if you feel uncomfortable. Interviews will take place shortly after your baby is born, about two months later, and when the baby is about six months old. In total, the three interviews should take no more than one and a half hours over a period of about six months.

The researcher may need to phone after the interviews to make sure all the information is correct. Another meeting can be set up if you want to make changes to the information given during interviews. Taking part in this study or dropping out will not affect your care , or your baby's care.

The researcher will request access to information from your client record at the health centre. This will allow me to note what the public health nurse has charted about your contacts with her. Information that I obtain from this chart review will be kept strictly confidential.

The nursing manager at the Health Centre will know which nurse is participating in this study. Your public health nurse will also know that you have agreed to be in this study. I cannot guarantee your anonymity. I will not use your name or any other personal information about you when I discuss, or write about, this study. Neither the public health nurse nor any other person at the Health Centre will know what you discuss with me. I will use only a code number, and no names, on the forms I use to collect information during this study. Any list on which you are named will be kept separate from coded materials. I will erase your name and any other identifying material from the written record of our taped conversations.

I will lock all records in a filing cabinet during the study and for seven years after I have finished the study. I will also keep the typed interview notes in a locked file. I or others may use these notes for studies in future, but only if approved by an ethics review committee. I may want to publish the results of this study or present the information at professional conferences. If so, I will not use your name on any material that could identify you.

This consent form will be kept in a locked filing cabinet for five years. Because your name is on it, I will keep the consent form in a different place than the other forms I collect during this study.

If you have any questions about this study, you can call me anytime at the numbers listed above.

--- --

CONSENT

I fully understand the above research procedures. All my questions were answered. I know that I can contact the person named above if I have other questions either now or later. I know that I do not have to participate in this study. I understand the possible benefits of joining the study. I am free to withdraw from the study whenever I want. There will be no effect on the services I receive from this or any other health centre if I do not participate in the study or withdraw later. The researcher will tell me right away if she obtains information in doing this study that would possibly make me change my mind about taking part in this research. I have a copy of this form to keep.

______________________________	______________________________
(Signature of Participant)	**(Date)**
______________________________	______________________________
(Signature of Researcher)	**(Date)**

Please sign below if you want a copy of the study results mailed to you.

Name: ____

Address: ____

Participant Information Fact Sheet

Participant Information

Our Health Centre is taking part in a research project conducted by Jeanne Besner, a PhD in Nursing student at the University of Alberta. Jeanne is a nurse who worked in public health for many years. She is interested in getting information about the Healthy Beginnings postpartum program.

Purpose of the Study

Jeanne wants to know how helpful the Healthy Beginnings program is in meeting the health needs of families receiving public health nursing services. I am taking part in the study.

What is Involved?

1. Jeanne would like to phone you, to explain the study to you, and find out if you are interested in taking part.

2. Not everyone who agrees that Jeanne can phone will be part of the study. She wants to involve people of different ages and cultural backgrounds, and with different health needs. She can only decide who should take part after she has a little bit of information about my clients (e.g. age, number of children, marital status). I can't give her that information without your permission.

3. If you are interested in joining the study after Jeanne explains it to you, she will meet with you, in your home or any other place that would suit you. Jeanne will give you more information about the study, and get your written consent to participate.

4. Jeanne will meet three times, over a period of about six months, with the individuals who take part in the study. The total amount of time that would be spent in interviews with Jeanne would be about two hours over six months. The first interview would take place soon after you agree to join the study, and the others when the baby is about two months, and six months old.

5. All of the information that you provide during interviews will be kept strictly confidential. None of the people at the Health Centre nor myself will know what you and Jeanne discuss.

6. If you agree to take part, you can still drop out any time if you change your mind and no longer want to stay in the study. You just need to call Jeanne, or write to her, or tell me. Taking part in this study or dropping out will not affect the services you receive from Community Care and Public Health.

If you would be willing to talk to Jeanne, could I give her your name and phone number (or address if no phone)? She may get in touch with you about your participation in the study.

Project Title:

A Theory-based Approach to Establishing the Effectiveness of a Public Health Nursing Program

Researcher:	**Supervisor:**
Jeanne Besner	Dr. Phyllis Giovannetti
PhD Nursing Candidate	Associate Dean
# 506, 10515 - 99 Ave	Faculty of Nursing
Edmonton, AB T5K 0E8	University of Alberta
Phone: 424-8058 (Home) 492-5667 (Office)	Phone: 492-6251

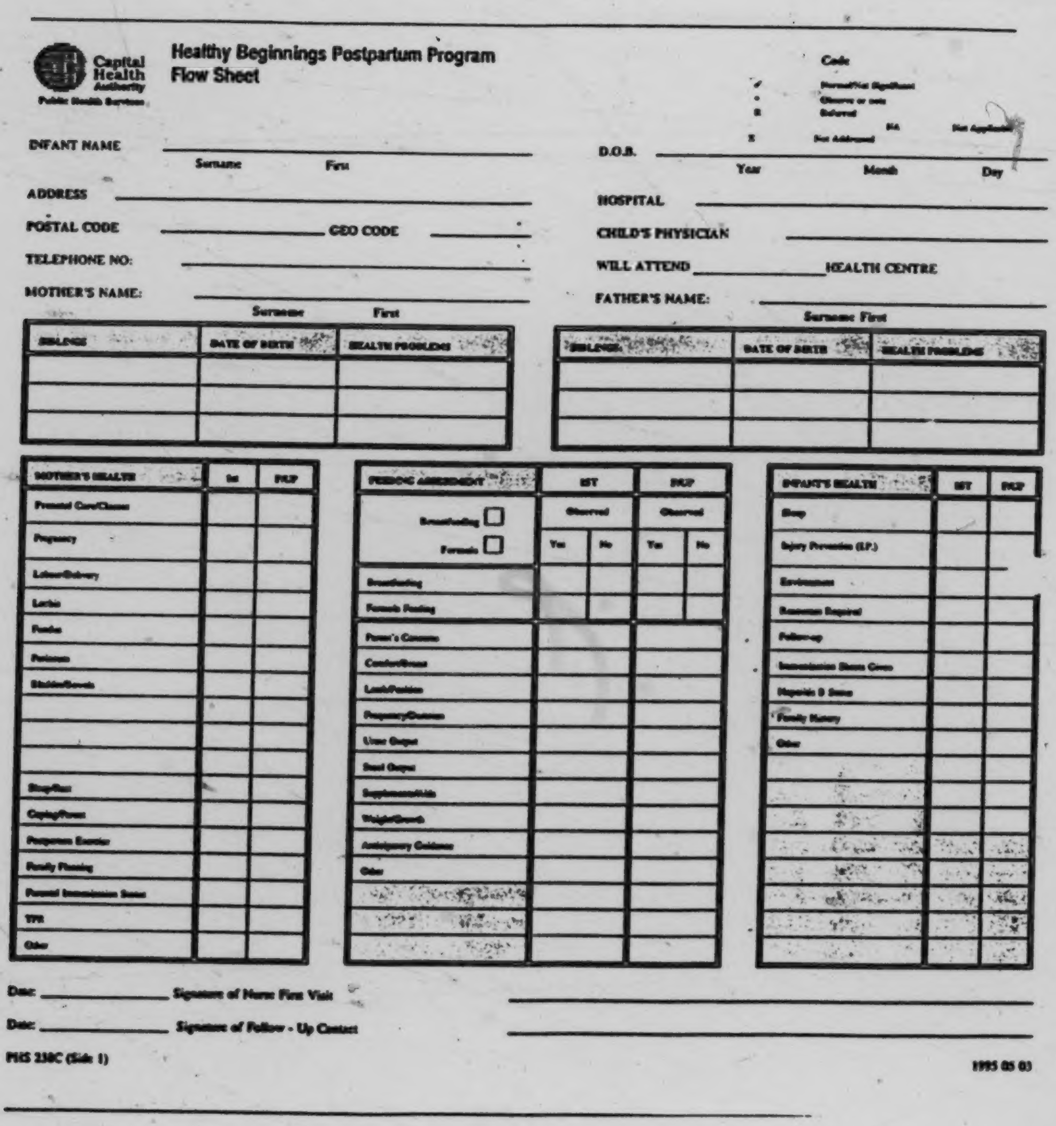
Please sign below if you are willing to have Jeanne contact you.

Name and telephone: ______________________________

Address: ______________________________

Signature of client: ______________________________

APPENDIX C



Capital Health Authority
Public Health Services

Healthy Beginnings Postpartum Program Flow Sheet

Code
✓ Normal/Not Significant
• Observe or note
R Referred
X Not Addressed
NA Not Applicable

INFANT NAME ______________________ Surname First

D.O.B. ______________________ Year Month Day

ADDRESS ______________________

HOSPITAL ______________________

POSTAL CODE __________ GEO CODE __________

CHILD'S PHYSICIAN ______________________

TELEPHONE NO: ______________________

WILL ATTEND __________ HEALTH CENTRE

MOTHER'S NAME: ______________________ Surname First

FATHER'S NAME: ______________________ Surname First

SIBLINGS	DATE OF BIRTH	HEALTH PROBLEMS

SIBLINGS	DATE OF BIRTH	HEALTH PROBLEMS

MOTHER'S HEALTH	1st	F/UP
Prenatal Care/Classes		
Pregnancy		
Labour/Delivery		
Lochia		
Fundus		
Perineum		
Bladder/Bowels		
Sleep/Rest		
Coping/Stress		
Postpartum Exercise		
Family Planning		
Personal Immunization Status		
TPR		
Other		

FEEDING ASSESSMENT	1ST		F/UP	
Breastfeeding ☐ Formula ☐	Observed		Observed	
	Yes	No	Yes	No
Breastfeeding				
Formula Feeding				
Parent's Concerns				
Comfort/Breast				
Latch/Position				
Frequency/Duration				
Urine Output				
Stool Output				
Supplements/Aids				
Weight/Growth				
Anticipatory Guidance				
Other				

INFANT'S HEALTH	1ST	F/UP
Sleep		
Injury Prevention (I.P.)		
Environment		
Resources Required		
Follow-up		
Immunization Status Given		
Hepatitis B Status		
Family History		
Other		

Date: __________ Signature of Nurse First Visit ______________________

Date: __________ Signature of Follow - Up Contact ______________________

PHS 230C (Side 1)

1995 05 03

Nursing Assessment of the Infant

Code:
✓ Normal/Not Significant
* Observe or note
R Referred
NA Not Applicable
X Not Addressed

INFANT NAME ______________________________ D.O.B. ______________________________
Surname First Year Month Day

GENERAL APPEARANCE	1st	F/UP
Alert		
Smiling		
Symmetry		
Movements		
Other		

FACE	1st	F/UP
Nose		
Mouth		
Other		

EYES	1st	F/UP
Eye Lids		
Conjunctiva		
Other		

EARS	1st	F/UP
Position		
Other		

HEAD	1st	F/UP
Symmetry		
Shape		
Scalp		
Hair		
Fontanel A		
Fontanel P		
Neck		
Clavicles		
Other		

SKIN	1st	F/UP
Colour		
Turgor		
Rashes		
Birthmark(s)		
Texture		
Nails		
Body Hair		

CHEST	1st	F/UP
Symmetry		
Shape		
Breasts		
Nipples		
Apical Pulse		
Heart Sounds		
Respirations		
Other		

ABDOMEN	1st	F/UP
Symmetry		
Shape		
Cord		
Other		

BACK		
Spine		
Buttocks		
Other		

EXTREMITIES	1st	F/UP
Symmetry		
Mobility		
Muscle Tone		
Hips		

ANAL, GENITO-URINARY	1st	F/UP
Female - Appearance		
- Other		
Male - Appearance		
- Testes		
- Circumcision		
- Other		

[illegible] ASSESSMENTS	1st	F/UP
Metabolic Screen		
Temperature		
Head Circumference		
Length		
Other		

PARENT/CHILD INTERACTION	1st	F/UP
Verbal Comments		
Eye Contact		
Holding		
Other		

Date: ____________ Signature of Nurse First Visit ______________________________

Date: ____________ Signature of Follow-Up Contact ______________________________

PHS 230C (Side 2)

Health Map
Postpartum Community Based Service
Healthy Beginnings Postpartum Program

Time Frame	**Same Day Discharge Telephone Contact**	
Core Process	**Interventions**	**Outcomes**
Assessing Health		
Mother	• explain purpose of home visit • confirm address for home visit, and telephone number • arrange with interpreter for conference call and home visit if language barrier • clarify concerns • identify possible solutions, ie home visit necessary?	• understands and agrees to home visit • lochia moderate rubra • pain under control • expresses no immediate concerns regarding self
Infant	• clarify concerns • identify possible solutions	• no concerns expressed regarding physical status of infant
Mother/Infant	• visit if not latching or feeding concern expressed	• successfully latched and breastfed well in hospital or since arriving home. • knowledge of frequency of feeding • has formula, supplies, and knows how to prepare formula.
Family	• identify solutions drawing on family and community resources • refer to agencies that might be able to help	• support system available
Facilitating Learning	• discuss services available in HBPP	• knows how to access help on the hot-line • knows how to get help between 2200 and 0830 hours • knows about next day home visiting services - visit tomorrow - purpose - physical exam (mother and infant) - blood work

Health Map
Postpartum Community Based Service
Healthy Beginnings Postpartum Program

Time Frame	Next Day Contact (18 - 36 Hours Postpartum)	
Core Process	**Interventions**	**Outcomes**
Assessing Health		

Mother	• home visit
	• complete HBPP flow sheet, maternal assessment
	• third contact or physician referral if involution not progressing normally
	• ensure access to emergency services, if required
		• Involution progressing normally
		  • lochia mod rubra
		  • small clots
		  • perineum slightly swollen, red, bruised and well approximated
		  • fundus firm, U_2 to U_3
		  • vital signs stable
		  • voiding clear urine, with no difficulty
		• reports pain control and is physically comfortable

Infant	• complete HBPP flow sheet, newborn assessment
	• do blood work as necessary (bilirubin and metabolic screen)
	• third contact or physician referral if infant's health is a concern
	• ensure access to emergency services, if required
	• third contact if signs and symptoms or risk factors for jaundice
		• Infant healthy
		  • vital signs stable
		  • color pink (extremities may be blue)
		  • tone - flexed, equal and smooth movement of all limbs
		  • cry normal
		  • behavior - consoles easily, arouseable
		  • had first void and meconium stool
		  • cord drying, clamp off
		  • heart sounds normal
		  • anterior fontanel soft and flat (2-3 cm diameter)
		  • nares patent
		  • eyes clear, no discharge
		  • soft and hard palates intact
		• no risk factors for jaundice

Time Frame	Next Day Contact (18 - 36 Hours Postpartum)	
Core Process	**Interventions**	**Outcomes**

Mother/Infant	• complete HBPP flowsheet, feeding assessment
	• third contact if breastfeeding not successfully established
		• breastfeeding
		  • latches to breast correctly
		  • positioned correctly
		  • nipples intact
		  • breasts comfortable
		  • infant ready, able and willing to suck
		  • hunger cues clear
		  • feeding on demand (6-8/day)
		  • wakes to feed or able to arouse to feed
		  • bowels: 2-3 meconium stools/day
		  • voiding: 1 void first postpartum day
		2 voids second postpartum day
		3 voids third postpartum day

Family	• third contact and/or referral if environment is a concern • third contact and/or referral if family coping is a concern • referral to Multicultural Community Health Developer (MCHD) for ongoing follow-up and support	• safe environment for infant • attentive to infant's physical and emotional needs • has knowledge and resources to increase problem solving abilities • reports feeling more in control of situation • aware of follow-up contact 3-5 days after delivery • receives culturally responsive care

Facilitating Learning	• establish the phase of postpartum that the woman is experiencing (dependent vs interdependent)
	• address the immediate client concerns
	• contract for 3rd home visit if family not ready to learn at this time
	• suggested learning areas are:
	  • self care (pericare)
	  • engorgement
	  • nutrition
	  • normal expectations about infant behavior
	  • physiologic warning signs for infant and self
	  • assessment for jaundice
	  • infant's sleep patterns and positions
	  • Kegel exercises
	  • physical care of infant
		• expresses readiness to learn about care of self and infant
		• immediate learning needs have been met
		• satisfied with public health service

Health Map
Postpartum Community Based Service
Healthy Beginnings Postpartum Program

Time Frame	Follow-up Contact (10 Days to 2 Weeks Postpartum)	
Core Process	**Interventions**	**Outcomes**
Assessing Health		

Mother	• physician referral if involution not progressing normally	• physical recovery progressing normally
		  • lochia alba scant
		  • perineum comfortable
		• aware of follow-up appointments (immunization, postpartum check, etc)
		• breasts full and comfortable
		• nipples intact
		• rest needs

Infant	• invite to health centre for drop-in weight and discussion group	• feeding within normal expectations • infant is back to birth weight
Mother/Infant	• invite to Breastfeeding support group • determine follow-up if breastfeeding not going well	• mother reports breastfeeding is going well
Family	• identify solutions and draw on, or create support systems • direct emerging community issues to community development resource staff • MCHD reports back to referring PHN regarding family health status	• support available for primary caregiver • feeling positive about new role • adjustment to new roles occurring • utilization of appropriate resources • receives culturally responsive care

Facilitating Learning	• provide opportunity for peer learning through breastfeeding support group and drop-in weight and discussion group
	• some topics for group discussion are:
	  • immunization
	  • birth control
	  • sexual relations
	  • safety - carseat, crib
	  • infant's growth spurts
	  • community resources
	  • postpartum exercises
		• knowledgeable about where to get necessary information and support
		• assumes self-responsibility for learning

Health Map
Postpartum Community Based Service
Healthy Beginnings Postpartum Program

Time Frame	Follow-Up Contact (3 to 5 days Postpartum)	
Core Process	**Interventions**	**Outcomes**
Assessing Health		

Mother	• physician referral if involution not progressing normally	• physical recovery progressing normally
		  • lochia serosa scant to moderate
		  • perineum healing and comfortable
		  • nipples erect and intact
		  • breasts comfortable and full

Infant	• draw bilirubin as necessary	• infant's skin color is normal (no jaundice) • breastfed stool (yellow, curdy, not formed, 2-3/day) • bottle fed stool (yellow, formed, odor, 2-3/day) • voiding (6-8 wet diapers/day) • feeding (8-12/day) • wakes to feed on demand
Mother/Infant	• identify solutions drawing on client's experiences and feelings	• breastfeeding or bottle feeding well with no voiced concerns
Family	• identify solutions drawing on family resources and support network • refer to agencies that might be able to help • MCHD reports back to referring PHN regarding family health status	• realistic expectations around infant and self • positive emotional state or postpartum "blues" • receiving culturally responsive care

Facilitating Learning	• set a comfortable climate for learning
	• ensure that the client is physically comfortable
	• share control of both content and process
	• build self-esteem
	• make sure that the learning applies to reality, suggested topics may be:
	  • sibling adjustment
	  • reading infant cues
	  • expectations regarding infant feedings and growth spurts
	  • maternal nutrition
	  • postpartum "blues"
	• encourage self-responsibility
		• increased involvement in learning
		• increased client satisfaction with public health services
		• aware of local health centre resources
		• immediate learning needs have been met
		• eating a well balanced diet